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Trends and Constraints in Georgia's Growth

James E. Kundell and Howard A. Schretter

Georgia is one of the fastest growing states in the nation. During the 1970s its population increased by 875,000 persons to a total of over 5.4 million. Only five states in the nation added more people. By 1982, state population reached 5.6 million, thirteenth largest in America. Over the last several years, dramatic gains also have been recorded in economic activity. Since 1950, the Georgia economy has grown faster than both the southeastern and the national economies. Current population projections and economic forecasts foresee no near-term abatement of these trends.

As both population and economic growth continue, increasing pressures will be placed on the state's land resources. It is not inconceivable, for example, that over the next fifteen years twice as much land as is now used may be needed to provide for housing, jobs, and recreation. How and where changes in land use take place and the effects on the use, productivity, and enjoyment of the state's overall land resource base are unanswered questions.

REGIONAL DEVELOPMENT PATTERN

The aspects of Georgia's natural environment that affect land development most directly and significantly are physiography, geology, hydrology, and soils. Together, these factors help shape four regions; the highlands, piedmont, coastal plain, and coast (see accompanying map). Population and land use characteristics of each of these regions are summarized in Tables 1 and 2.

THE HIGHLANDS

The northeasternmost part of Georgia is dominated by the southern reaches of the Appalachians. These mountains have peak elevations nearing 5,000 feet, and are characterized by steep slopes, narrow twisting ridges, and small narrow valleys containing little developable land. West of the mountains lies the ridge and valley province where the physiographic pattern changes to one of parallel, long, flat valleys, separated by steep-sided, flat-topped ridges rising sharply 500 to 1,000 feet above the valley floor. Combined, these highlands comprise 13 percent of Georgia's total land area.

Forests cover 75 percent of the highland region, with about one of every five acres in the area in national forest. Cropland and pasture occupy bottom lands, with the most activity in the great valley extending northwest between Atlanta and Chattanooga. Although mining and quarrying are important to the region's economy, relatively little land is taken up by these activities.

Despite its rural character, manufacturing and not agriculture is the region's dominant economic activity. Nearly one half of all area workers are employed in manufacturing, more than in any other part of the state. By contrast, employment in agriculture has plummeted from 25 percent in 1950 to less than 5 percent currently, a reflection of changes in agricultural production systems and increasing competition for use of agricultural lands.

Not surprisingly, the highlands region is one of the more sparsely populated and rural areas of the state, with a population density of about 86 persons per square mile. Overall, about 12 percent of the state's population live in the highlands, with over 60 percent of these residents in rural areas. Throughout the region, local industry, recreational activities, and retirement and second home development have provided the impetus for moderate population and economic growth. Far greater growth pressure, however, is being experienced in counties bordering the Chattanooga and Atlanta metropolitan areas and the intervening great valley-Interstate 75 corridor.

By the turn of the century, the highlands region is

projected to grow in population by 20 percent, fed both by the continued outward movement of people and jobs from metropolitan Atlanta and Chattanooga and sustained rural development. As this growth proceeds, particular concern must be given to three areas in which development pressures and environmental contraints conflict. First, steep mountain slopes and narrow ridge tops generally are better suited for forests and pasture land than housing development. Poorly conceived and located construction in these areas can cause serious soil erosion, landslides and water pollution, while running the risk of structural collapse, septic tank flooding, and other hazards to property and personal safety.

Ground collapse and sinkhole formation also are development hazards in valleys of northwest Georgia underlain by soluble limestone or dolomite bedrock. Ironically, land subsidence is most likely to occur in urbanizing areas where increased ground water withdrawal may accelerate cave-ins.

A third major environmental constraint is the decreasing ability of the Coosa River and its tributaries in northwest Georgia to effectively assimilate increasing volumes of industrial waste and sewage effluent, limiting the area's ability to attract potential industries which are large water users or have significant organic waste discharges.

THE PIEDMONT

To the south of the highlands is the piedmont, a gently rolling hilly area with some steep slopes and deeply eroded dendritic drainage patterns. This is a region of great topographic diversity. In some places the land appears to be almost flat with occasional knobs appearing above the general level. In others, groups of hills occur in such number that it appears almost mountainous. The region's well-integrated pattern of drainage is reflected in numerous stream valleys, ravines, and gulleys, many of which are so eroded that only occasional remnants of relatively level interstream uplands remain.

Comprising about one-third of the state's land area, the piedmont is the most densely populated region, containing almost two-thirds (60 percent) of the state's population or about 169 persons per square mile. Although urban uses occupy less than 10 percent of the total area, this amounts to almost 950,000 acres or more than one-half of all the urban land in the state. Further, between 1980 and the end of the century, the piedmont is expected to gain more than 1.6 million persons, more than 80 percent of the state's total growth. It is estimated that approximately three-fourths of an acre of land per person is required to provide for the needs of a growing population. Since most of this new population will be concentrated in urban areas, it is conceivable that in the next fifteen years, approximately 1.2 million acres of additional land in the region may be converted to urban use. Most of this will take place in the vicinity of the region's five metropolitan centers, with two-thirds of this change in the eighteen-county Atlanta metropolitan area alone. Clearly, the impacts of this diversion from other land use will be significant.

Although the piedmont region has been able to accommodate most of the urban and industrial growth received in the past, in some areas, the capacity to assimilate new growth may be fast approaching. The principal environmental constraints to continued unchecked development are the region's already overtaxed water supplies and waste water treatment systems. Surface water, the primary source of most of the region's municipal and industrial water supply, is developed almost to its capacity in and around the largest metropolitan areas. Since limited ground water is available, future policy decisions will have to be made about building additional storage reservoirs, achieving more efficient use of existing water supplies, or restricting heavy users and possibly even population growth itself. Further complicating this

Table 1
Land Use and Development Concerns by Region

Region	Cropland (%)	Pasture (%)	Forest (%)	Urban (%)	Other (%)	Major Development Concerns
Highland	7	11	75	5	2	ABDE
Piedmont	10	10	69	8	3	ABCD
Coastal Plain	27	6	61	2	4	ACD
Coast	3	1	72	7	17	DE

A Geologic hazard
B Soil erosion
C Water supply shortage
D Water supply deterioration
E Land misuse

Source: U.S. Department of Agriculture, Soil Conservation Service, *State Land Use Survey,* 1979.

Table 2
Population Projections to Year 2000

Region	Population 1980[a] (000)	% State Total 1980	Projected Population 2000[b] (000)	% Increase 1980-2000	% State Population 2000
Highlands	655.6	12	778.2	19	10
Piedmont	3,277.8	60	4,861.5	48	66
Coastal Plain	1,201.9	22	1,296.8	8	17
Coast	327.8	6	486.1	48	7

[a]U.S. Bureau of the Census

[b]Georgia Office of Planning and Budget

situation is the problem of water pollution downstream of several urban areas caused by the disproportionately heavy discharge of effluent into relatively low volume streams. Another condition of increasing concern, particularly in rural areas experiencing suburban development, is the unsuitability of much of the piedmont's soil for septic tank use, particularly in the density associated with subdivision developments.

COASTAL PLAIN

The coastal plain stretches across the southern third of Georgia. It is an area with relatively flat land and generally sandy soils in its eastern portion (lower coastal plain), and gently rolling surface underlain by richer, more fertile soils to the west (upper coastal plain).

The region, which contains three-quarters of the state's prime agricultural land and three major water producing aquifer systems, is Georgia's agricultural heartland. Seventeen of the twenty leading counties in farm income are located in the region, with the southwest corner of the state setting the pace. Commercial forests occupy over two-thirds of the lower coastal plain which is the state's leader in pulpwood production. In the last decade, over 500,000 acres of this area's woodland were diverted to other uses, almost 70 percent of which was converted to agricultural production.

Overall, 33 percent of the coastal plain is in crop or pasture, while about 60 percent is in forest. Georgia's principal mineral resources, kaolin and other clays, also are found here. Strip mining activities may account for as much as 4 percent of land use in the region. Only 2 percent of the coastal plain is devoted to urban uses and the region as a whole has the lowest population density in the state, about 44 persons per square mile. Projections of population change during the remainder of the century point to continued slow growth.

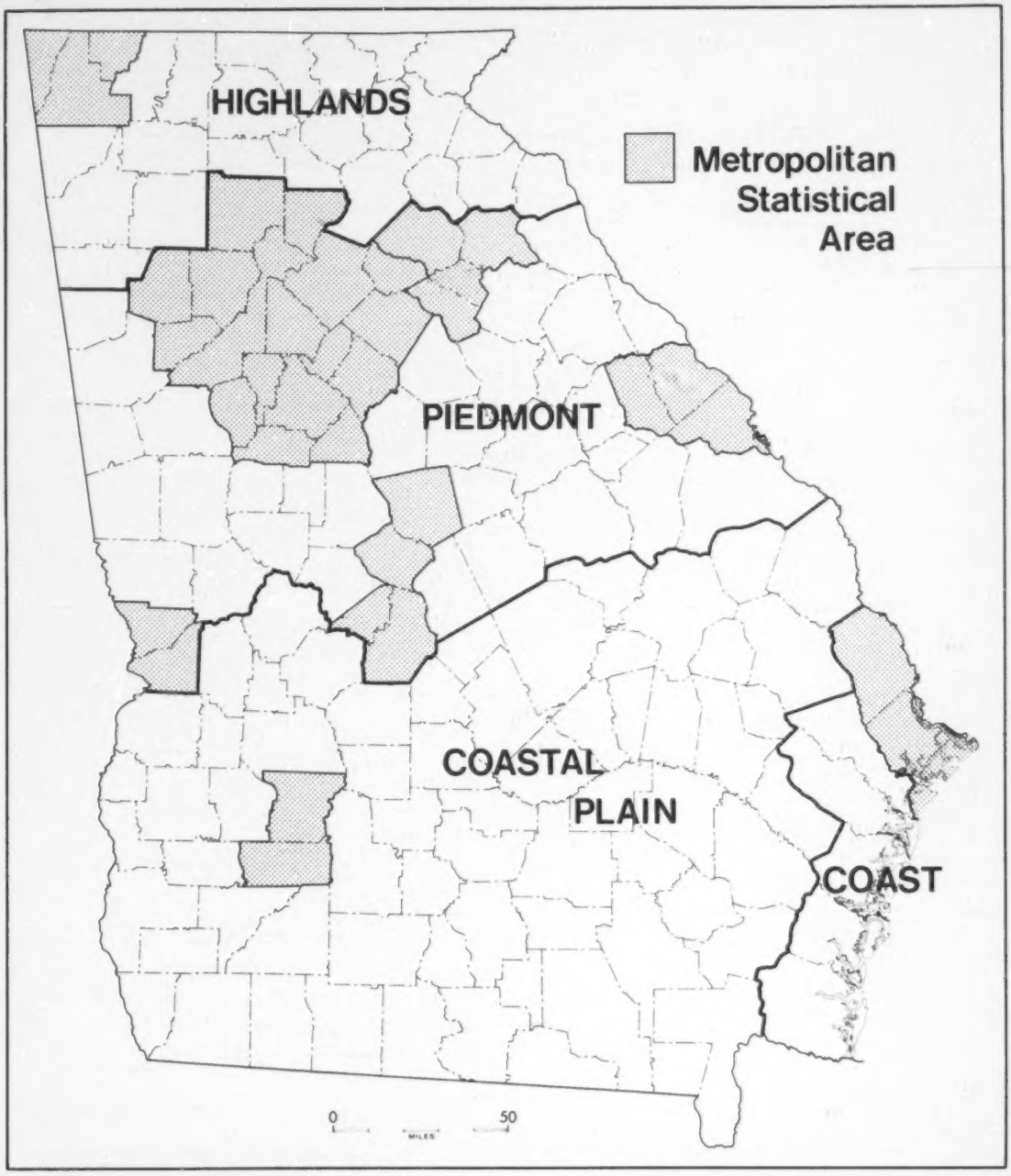
Development concerns center around the potential for both polluting and over-utilizing the region's major ground water aquifers by agriculture or industry. In addition, sinkhole formation occurs in the region's southwestern corner. While a natural phenomenon, this is accelerated by massive pumping of ground water as urban, industrial, or agricultural needs expand.

THE COAST

The counties bordering the Atlantic have an environment and economic focus somewhat different from the neighboring coastal plain of which it is physiographically a part. Composing only 7 percent of the state's land base, the region is characterized by extremely low elevations and little topographic relief, numerous river swamps, and extensive salt marshes flanking a chain of barrier islands. Forests and wetlands occupy nearly 90 percent of the area, while agriculture comprises only 4 percent of the land use. Extensive deposits of phosphates lie below the coastal marshlands, the biological productivity of which supports much of the state's fishing industry.

Though only 6 percent of Georgia's population live on the coast, a number of factors are rapidly changing the region's growth prospects. Most noticeably, continued development of the Trident nuclear submarine base at Kings Bay in Camden County is expected to have a major impact in the area. In the next fifteen years, construction costs are expected to reach $1.8 billion, while population growth in Camden County alone may exceed 250 percent. For the region as a whole, population is expected to grow by nearly 50 percent by the year 2000. Other forces which are expected to accelerate the area's development include the growth of the ports of Savannah and Brunswick and increases in the tourism and recreational use of the Georgia coast.

However, the coast continues to be the state's most fragile and interdependent environment. Its high water table, river swamps, coastal marshes, dunes, and the potential for salt water intrusions all tend to limit the location and types of development which may



take place. It is important that future development in the region not undermine the resource base which prompted the development originally.

EFFECTS OF LAND CONVERSION

Land can be divided into three general categories based on characteristics to support conversion to urban and other uses: land with potential biological productivity is generally too valuable to convert; land with inherent problems such as high erosion, periodic flooding or geologic faulting or subsidence is too expensive to convert; and the vast majority which may be converted without hidden costs.

Developable Land A number of factors determine if land should be converted to higher intensity uses. Its location is the basic consideration. Proximity to an urban area, to an adequate road system, to water and wastewater systems, to electricity and telephone lines, to good schools, to fire and police protection and to other services makes land highly desirable for

conversion. These considerations frequently outweigh the value of even prime land for agricultural purposes. As long as these lands lack flaws which would produce future problems if developed or if these problems are alleviated in the design and construction phase, conversion is generally beneficial.

Land use planning and control mechanisms should be designed to identify these developable areas and to encourage their use for high intensity purposes. To some degree, this is the logic behind the creation of industrial parks. It should also be a basic consideration for local government planning and zoning activities. By identifying those lands best suited for development and encouraging their use, the hidden consequences of poorly sited development should be minimized.

Prime Land Prime land is that which produces the best crops with the least cost and least environmental impact. It is the best land to farm. Unfortunately, it is also the best upon which to build roads and buildings. The Soil Conservation Service estimates that of the 37.6 million acres in Georgia, 7.8 million acres are prime land. Approximately 25,000 acres of prime land are converted annually to nonagricultural uses. As a result, between 1980 and 2000, a half million acres of prime land are likely to be converted to urban uses in Georgia. This represents about 6.5 percent of the prime land in the state. As conversion occurs, there will be a shift to using marginal forested lands for agricultural production. This could result in higher costs per unit crop produced and increased erosion and sedimentation. It will also shift agricultural production to areas more distant from urban consuming areas, thus causing higher transportation costs.

There is concern that prime land should not be inadvertently converted to nonagricultural uses. In 1981, Governor George Busbee issued an executive order to discourage the unnecessary conversion of prime agricultural land to irreversible nonagricultural uses. Since state government activities such as the location of highways and wastewater treatment facilities are major determinants of land use, the executive order directed state agencies to review their activities and take steps to discourage prime land conversion.

One factor contributing to the conversion of prime land to urban uses is the taxes levied on that land. Since taxes are based on the highest and best use of land, these may be prohibitively high on agricultural land, forcing the farmer to sell or convert his land to other uses. The 1982 constitutional revisions allowed for a preferential assessment for bona fide agricultural land. Qualified land is taxed at 30 percent of true value rather than the 40 percent levied on lands used for other purposes. To gain the lower assessment, the famer must sign a written agreement not to convert his land to nonagricultural purposes for ten years. Since this is the first year of the preferential assessment, it is not known how much land will qualify for lower taxes, where the land is located, or how effective this approach will be in keeping prime lands in agriculture.

Problems Land Some land has inherent problems which should exclude it from development. This includes land with a high water table and land susceptible to periodic flooding, erosion, and potential faulting or subsidence. Generally these lands either have steep slopes or experience water fluctuations. In each case, the true costs of development may be hidden or shifted, at least in part, to society in general. As a result, these areas are frequently developed.

A good example of problem lands exists on the Georgia coast. Since people enjoy the beach and ocean, development of barrier islands is understandable. However, the movement of sand along these islands makes them temporal in nature. Attempts to circumvent this natural sand shifting generally have been expensive and ineffective. Of even greater consequence, however, is the susceptibility of these islands to hurricane damage. Barrier islands protect inland areas from hurricanes but are themselves extremely vulnerable. Because development of these islands can be detrimental, the federal government recently decided that it will no longer encourage development by removing incentives to do so. Also, the 1984 Georgia General Assembly created a special committee to study coastal problems and determine steps to be taken to assimilate growth without causing even more problems.

CONCLUSION

As Georgia continues to develop, greater population densities and economic activities will place added stress on the state's natural resources. Much of this stress can be mitigated by planning for growth and directing it in a way that minimizes the adverse side-effects. By so doing, Georgia is more likely to have both a prosperous economy and a quality environment.

James E. Kundell is a public service associate in the Carl Vinson Institute of Government at the University; and Howard A. Schretter is assistant professor of geography with the Institute of Community and Area Development, The University of Georgia.

Personal Income in Georgia: The Early 1980s

Part 2

Suzanne A. Lindsay

Revised data released in August 1984 by the U.S. Department of Commerce show that Georgia's per capita personal income* grew in both nominal (current dollar) and real (1967 dollar) amounts, although real growth was much smaller than apparent growth. In current dollars, the state's PCPI was $3,323 in 1970; by 1980 it was $8,021; in 1982, $9,637; and in 1983, $10,379 (see Table 1). Nominal annual average rates of growth were: for 1970-1980, 9.2 percent; 1970-1983, 9.1 percent; 1980-1983, 8.9 percent; and 1982-1983, 7.7 percent. The rates were higher than those for the U.S. as a whole in each period (Table 2).

In real (1967) dollars, Georgia's per capita income increased from $2,857 in 1970 to $3,250 in 1980, an annual average rate of growth of 1.3 percent. It rose to $3,333 in 1982 and to $3,478 in 1983. Corresponding real annual average rates of growth were 1.3 percent for 1970-1980, 2.3 percent for 1980-1983, 1.5 percent for 1970-1983, and 4.4 percent for 1982-1983, all higher than the U.S. rates. According to the Bureau of Economic Analysis, Georgia was ranked 34th in per capita income among all states in 1983. With the third highest PCPI in the 12-state southeastern region, it was behind Virginia and Florida but well above North Carolina, South Carolina, and Alabama.

As a percent of the national average, Georgia's PCPI has increased steadily since 1980. It was 84 percent of the U.S. average in 1970 and 1980, but rose to 85 percent in 1981, 87 percent in 1982, and 89 percent in 1983. The improvement came during a period of population growth; by BEA estimates, Georgia's population grew from 4.6 million in 1970 to 5.5 million in 1980 and 5.7 million in 1983.

*Per capita personal income is the annual total personal income of residents of an area, divided by the resident population as of July 1.

METROPOLITAN AREA PCPI

April estimates show that from 1970 to 1982—the latest year available at the MSA and county levels—the PCPIs of Georgia's eight metropolitan statistical areas varied widely as a percentage of the national average and in rank among the U.S. MSAs (see Table 3). As the concentration of total personal income suggests, the Atlanta MSA had a PCPI (104 percent) above the national average in 1970, 1980, and 1982. The Albany, Athens, and Savannah MSAs improved their relative standings between 1970 and 1982; the Augusta MSA's relative position remained unchanged, after a drop in 1980, and the relative standings of PCPIs in the Chattanooga, Columbus, and Macon-Warner Robins MSAs declined. Except for Atlanta, which had a PCPI ranking 78th among all MSAs in the nation, the PCPIs of the other areas ranked between 200 and 300 nationwide. At 295, the Athens area had the lowest MSA percentage of national average PCPI in the state.

COUNTY PCPIs AND THE U.S. AVERAGE

Between 1970 and 1982, PCPIs in many of Georgia's counties rose as a percentage of the national average, although the levels varied widely from county to county (Table 4). The number of county PCPIs falling in very low ranges declined from 12 (7.5 percent) in 1970 to 5 (3.1 percent) in 1982. The number of very high ranges remained unchanged between 1970 and 1980. Within the middle and upper ranges, however, many more counties achieved PCPIs of at least 70 percent of the national average, reflecting the state's overall economic growth.

Table 1
Nominal and Real Per Capita Personal Income, U.S. and Georgia, Selected Years

	Nominal ($)		Real (1967 $)	
Year	U.S.	Georgia	U.S.	Georgia
1970	3,945	3,323	3,392	2,857
1980	9,494	8,021	3,847	3,250
1982	11,113	9,637	3,844	3,333
1983	11,685	10,379	3,916	3,478

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, August 1984, per capita income estimates, adjusted for inflation by the CPI-U, all city, all items annual averages for the respective years.

Table 2
Annual Average Rates of Growth in Nominal and Real* PCPI, U.S. and Georgia, Selected Periods

	Nominal		Real	
Period	U.S.	Georgia	U.S.	Georgia
1970-80	9.18	9.21	1.27	1.30
1980-83	7.17	8.97	0.59	2.29
1970-83	8.71	9.16	1.11	1.52
1970-82	9.01	9.28	1.05	1.29
1980-82	8.19	9.61	−0.04	1.27
1982-83	5.15	7.70	1.87	4.35

*1967 $

Source: See Table 1.

Table 3
Relative Rankings of Per Capita Personal Income, Georgia MSAs

MSA	1982 Rank Among All U.S. MSAs*	% of U.S. Average** 1970	1980	1982
Albany	279	73	77	78
Athens	295	71	74	75
Atlanta	78	104	104	104
Augusta	255	83	80	83
Chattanooga	259	87	85	83
Columbus	285	80	77	77
Macon-Warner Robins	228	88	85	87
Savannah	221	87	87	88

*U.S. Department of Commerce, Bureau of Economic Analysis, "County and Metropolitan Personal Income, 1980-82," *Survey of Current Business*, April 1984.

**U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, "Per Capita Personal Income in Metropolitan Areas, Counties, and Independent Cities, in Selected Years," April 1984.

Table 4
PCPI Distribution for Georgia Counties, 1970, 1980 and 1982
(Percentage of National Average)

% of National Average	1970 # of Counties	1970 % (N=159)	1980 # of Counties	1980 % (N=159)	1982 # of Counties	1982 % (N=159)
30 - 39	1	0.6	1	0.6	0	0.0
40 - 49	11	6.9	9	5.7	5	3.2
50 - 59	41	25.8	41	25.8	29	18.2
60 - 69	67	42.1	50	31.5	58	36.5
70 - 79	20	12.6	37	23.3	41	25.8
80 - 89	12	7.6	14	8.8	18	11.3
90 - 99	4	2.5	5	3.2	5	3.2
100 - 109	1	0.6	0	0.0	1	0.6
110 - 119	2	1.3	1	0.6	1	0.6
120 - 129	0	0.0	1	0.6	1	0.6
Totals	159	100.0	159	100.0	159	100.0

Source: Based on U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, "Per Capita Personal Income in Metropolitan Areas, Counties, and Independent Cities, in Selected Years" (residence adjusted), April 1984.

Figure 1
Per Capita Personal Income as Percent of U.S. Average, 1982

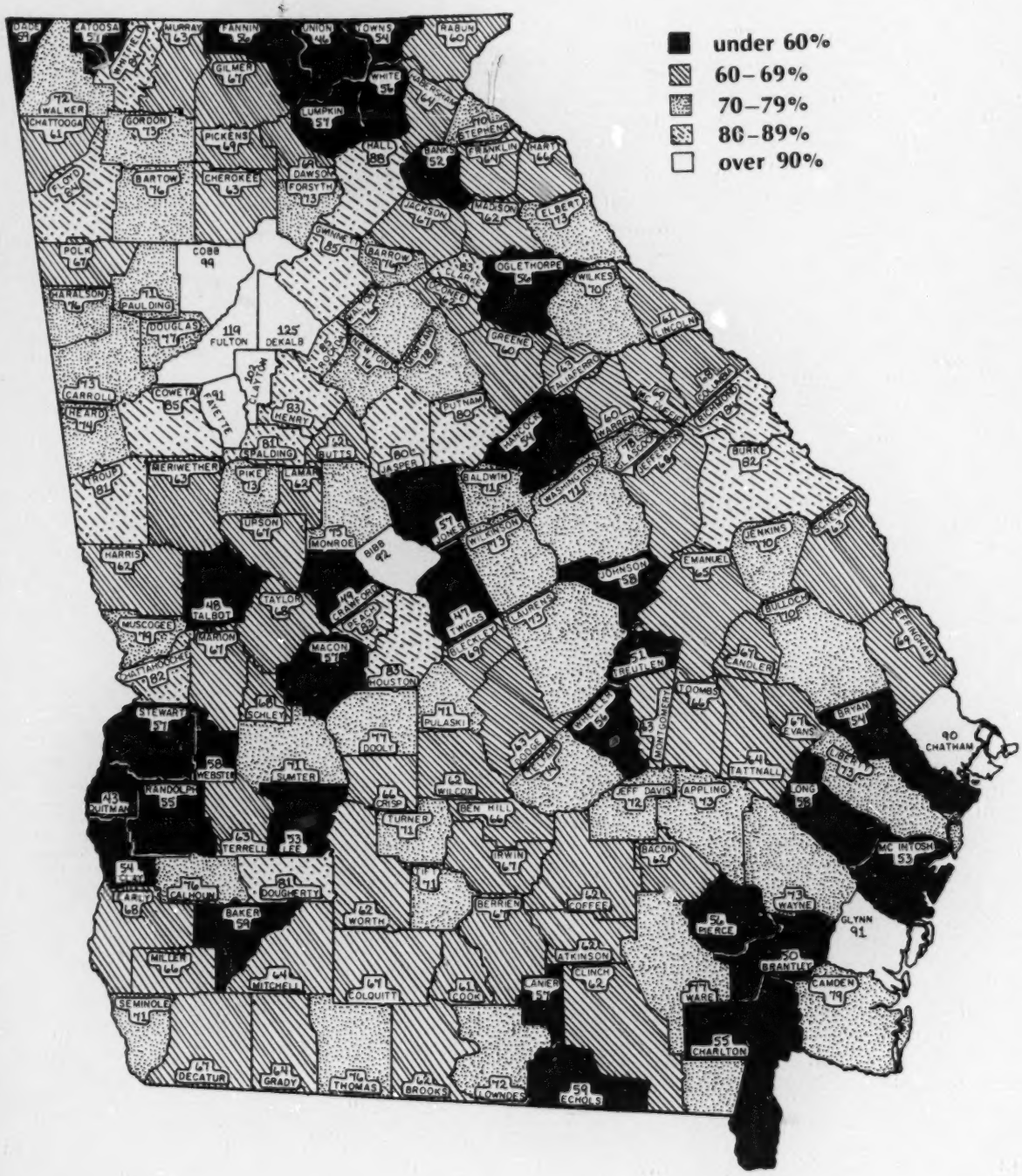


Table 5
Direction and Amount of Change, 1970-1982, in County Per Capita Personal Incomes
(% of U.S. Average)

Direction/Amount of Change (percentage points)	Number of Counties	% of Total
+ 21 or more	56	35.2
+ 16 - 20	39	24.5
+ 15 - 11	9	5.7
+ 10 - 6	4	2.5
+ 1 - 5	2	1.3
0	6	3.8
- 1 - 5	31	19.5
- 6 - 10	8	5.0
- 11 - 15	3	1.9
Data not comparable*	1	.6
Total	159	100.0

*Data for Liberty County are not comparable because of a large military wage/salary revision made for 1977-82 only.

Source: Based on U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, April 1984 data.

Higher income counties tended to cluster around metropolitan areas (see Figure 1), particularly Atlanta. As MSA hubs, Bibb, Chatham, and Glynn counties also had PCPIs of at least 90 percent of the U.S. average. Slightly lower, but still relatively high PCPIs formed a belt between the Athens-Gainesville areas and the Alabama border west of Atlanta. Altogether, the 38 metropolitan counties of the state had a PCPI of 96 percent of the U.S. average in 1982, up slightly from 95 percent in 1970. In contrast, Georgia's 121 non-metropolitan counties had an average PCPI of only 70 percent of the national average in 1982, compared to 67 percent in 1970, echoing disparities in total personal income between the two types of counties. Some idea of the variation in PCPIs among counties is given by the extremes: Quitman County, at 38 percent of the national average in 1970 and 43 percent in 1982, improved but remained the lowest ranking PCPI in the state, whereas DeKalb County, at 119 percent of the national average in 1970 and 125 percent in 1982, increased its margin over other counties.

CHANGE IN COUNTY PER CAPITA INCOMES

Measured against the U.S. average, most county PCPIs grew between 1970 and 1980 (see Tables 5 and 6). There were 110 counties (69.2 percent) with increases of 1 percentage point or more, 56 with gains of 1 to 5 percentage points, 39 with increases of 6 to 10 percentage points, and 15 with gains of 11 percentage points or more. Six counties (3.8 percent) were unchanged; 42 counties (26.4 percent) lost ground, with 31 losing between 1 to 5 percentage points, 8 losing 6 to 10 percentage points, and 3 losing 11 percentage points or more. The number of counties with PCPIs lower in 1982 than in 1970 helps to show the impact of the 1981-1982 recession.

ANNUAL AVERAGE RATES OF GROWTH

As in the case of total personal income, nominal (current dollar) and real (1967 dollar) values and annual average rates of growth for county PCPIs differed considerably. Table 7 shows that in 1982, nominal PCPI ranged from Quitman County's $4,712 to DeKalb's $13,909; in 1967 dollars (Table 8), DeKalb's PCPI of $4,811 was nearly three times higher than Quitman's ($1,632).

Before adjustment for inflation, annual average growth rates in nominal PCPI for 1970-1980 ranged from a high of 11.9 percent or a 3.8 percent real annual average rate of growth for Baker County, to a low of 6.5 percent (-1.3 percent real annual average rate of growth) in Pierce County. Over the 1980-1982 period, the highest rates were recorded for Burke County, where a nuclear power plant was under construction. The lowest rates for the period were those of Macon County (nominal 2.5 percent, real -5.2 percent).

Between 1970 and 1982, Burke County's nominal 13.6 percent annual average rate of growth led all other counties, illustrating one of the BEA's cautions: a sudden, temporary rise in PCPI that elevated both short and long-run rates of growth. The lowest 1970-1982 annual average rate of growth was the 7 percent nominal and -.9 percent real rates of Pierce County.

The distribution of real annual average rates of growth in county PCPIs for the three periods reemphasizes the differences between longer-run and short-term growth patterns. Between 1970 and 1980, 14 counties or 8.8 percent had negative or zero annual average growth rates. Another 29 (18.2 percent) grew less than one percentage point, 71 or 44.7 percent had growth rates of 1 to 1.9 percent, and 33 had grown 2 to 2.9 percent. Eleven counties had increased 3 percent or more. Over 1980-1982, the number of very low and relatively high rates increased greatly, with 57 counties having negative or zero annual average PCPI growth rates. Forty-four counties had rates of 3 percent or more, and the number of midrange increases declined correspondingly. In the 1970-1982 period, however, the pattern of annual average growth rates was close to that of 1970-1980, but with fewer counties in the extreme ranges.

Figure 2 shows the regional impact of annual average growth rates in real per capita personal incomes over 1980-1982. Counties with negative, zero, or very

TABLE 6

COUNTY PER CAPITA PERSONAL INCOME: 1982 RANK AND PERCENTAGE OF U.S. AVERAGE, SELECTED YEARS

County	Rank in State[a] 1982	% of U.S. Average[b] 1970	1980	1982	Change 1970-82	County	Rank in State[a] 1982	% of U.S. Average[b] 1970	1980	1982	Change 1970-82
Appling	44	59	63	73	14	Jefferson	77	59	60	68	9
Atkinson	110	51	53	62	11	Jenkins	66	53	55	70	17
Bacon	109	64	61	62	- 2	Johnson	130	55	57	58	3
Baker	127	49	44	59	10	Jones	135	56	56	57	1
Baldwin	62	55	71	71	16	Lamar	111	63	62	62	- 1
Banks	152	56	55	52	- 4	Lanier	137	60	53	57	- 3
Barrow	36	74	76	76	2	Laurens	50	66	70	73	7
Bartow	40	76	77	76	0	Lee	150	60	47	53	- 7
Ben Hill	91	65	66	66	1	Liberty[c]	49	65	74	73	8
Berrien	84	68	64	67	- 1	Lincoln	123	52	59	61	9
Bibb	5	90	91	92	2	Long	131	55	60	58	3
Bleckley	73	64	64	69	5	Lowndes	54	78	70	72	- 6
Brantley	154	62	49	50	-12	Lumpkin	136	53	57	57	4
Brooks	112	64	51	62	- 2	McDuffie	70	68	70	69	1
Bryan	147	56	55	54	- 2	McIntosh	151	44	54	53	9
Bulloch	68	57	66	70	13	Macon	138	56	63	57	1
Burke	21	50	58	82	32	Madison	115	64	63	62	- 2
Butts	120	64	64	62	- 2	Marion	80	54	56	67	13
Calhoun	34	52	63	76	24	Meriwether	103	62	61	63	1
Camden	27	67	81	79	12	Miller	92	60	50	66	6
Candler	85	69	62	67	- 2	Mitchell	100	63	58	64	1
Carroll	52	69	73	73	4	Monroe	41	68	73	75	7
Catoosa	134	61	58	57	4	Montgomery	108	60	59	63	3
Charlton	144	56	56	55	- 1	Morgan	29	68	77	78	10
Chatham	8	88	89	90	2	Murray	104	62	67	63	1
Chattahoochee	20	94	77	82	-12	Muscogee	28	83	80	79	- 4
Chattooga	121	66	64	61	- 5	Newton	37	75	79	76	1
Cherokee	107	66	62	63	- 3	Oconee	113	68	62	62	- 6
Clarke	18	74	80	83	9	Oglethorpe	141	54	56	56	2
Clay	148	46	45	54	8	Paulding	63	66	67	71	5
Clayton	3	94	98	102	8	Peach	16	71	79	83	12
Clinch	119	57	61	62	5	Pickens	71	67	70	69	2
Cobb	4	101	98	99	- 2	Pierce	142	70	54	56	-14
Coffee	114	65	58	62	- 3	Pike	51	64	65	73	9
Colquitt	79	69	65	67	- 2	Polk	87	68	72	67	- 1
Columbia	75	66	68	68	2	Pulaski	61	77	69	71	- 6
Cook	122	67	58	61	- 6	Putnam	25	66	80	80	14
Coweta	10	78	83	85	7	Quitman	159	38	39	43	5
Crawford	155	55	46	49	- 6	Rabun	124	58	58	60	2
Crisp	20	63	64	66	3	Randolph	145	55	48	55	0
Dade	128	59	58	59	0	Richmond	13	87	79	84	3
Dawson	69	61	73	69	8	Rockdale	11	80	82	85	5
Decatur	89	58	65	67	9	Schley	76	67	62	68	1
DeKalb	1	119	125	125	6	Screven	103	55	58	63	8
Dodge	102	63	59	63	0	Seminole	57	66	60	71	5
Dooly	31	67	64	77	10	Spalding	24	79	81	81	2
Dougherty	23	74	81	81	7	Stephens	67	68	72	70	2
Douglas	32	79	78	77	- 2	Stewart	133	49	53	57	8
Early	74	58	58	68	10	Sumter	59	69	68	71	2
Echols	129	55	56	59	4	Talbot	156	45	50	48	3
Effingham	72	72	68	69	- 3	Taliaferro	101	55	68	63	8
Elbert	46	69	76	73	4	Tattnall	96	52	56	64	12
Emanuel	95	58	58	65	7	Taylor	78	60	65	68	8
Evans	81	62	63	67	5	Telfair	42	58	69	74	16
Fannin	140	55	60	56	1	Terrell	106	60	54	63	3
Fayette	7	89	91	91	2	Thomas	39	73	73	76	3
Floyd	14	85	85	84	- 1	Tift	60	66	70	71	5
Forsyth	47	69	68	73	4	Toombs	93	63	62	66	3
Franklin	99	66	65	64	- 2	Towns	146	48	54	54	6
Fulton	2	114	118	119	5	Treutlen	153	47	53	51	4
Gilmer	83	61	67	67	6	Troup	22	77	79	81	4
Glascock	30	69	72	78	9	Turner	58	66	62	71	5
Glynn	6	84	93	91	7	Twiggs	157	48	47	47	- 1
Gordon	53	75	72	73	- 2	Union	158	47	45	46	- 1
Grady	98	59	60	64	5	Upson	86	73	69	67	- 6
Greene	126	52	62	60	8	Walker	55	81	74	72	- 9
Gwinnett	12	85	85	85	0	Walton	35	69	72	76	7
Habersham	97	61	67	64	3	Ware	33	78	77	77	- 1
Hall	9	81	87	88	7	Warren	125	53	61	60	7
Hancock	149	47	52	54	7	Washington	64	64	70	71	7
Haralson	38	81	76	76	- 5	Wayne	45	68	71	73	5
Harris	116	64	61	62	- 2	Webster	132	49	52	58	9
Hart	94	65	65	66	1	Wheeler	139	58	49	56	- 2
Heard	43	57	73	74	17	White	143	55	58	56	1
Henry	19	74	79	83	9	Whitfield	15	86	85	84	- 2
Houston	17	93	80	83	-10	Wilcox	117	62	53	62	0
Irwin	82	65	52	67	2	Wilkes	65	65	72	70	5
Jackson	88	68	69	67	- 1	Wilkinson	48	59	71	73	14
Jasper	26	70	74	80	10	Worth	118	58	55	62	4
Jeff Davis	56	67	73	72	5	Georgia	--	84	85	86	2

[a]U.S. Department of Commerce, Bureau of Economic Analysis, County and Metropolitan Area Personal Income, 1980-82, Survey of Current Business, April 1984, pp. 37-38.

[b]U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, "Per Capita Personal Income in Metropolitan Areas, Counties, and Independent Cities, In Selected Years" (Georgia), April 1984.

[c]Series discontinuous because of large military wage/salary revision for 1977-82 only.

Figure 2
Annual Average Rates of Growth in Real Per Capita Personal Income, 1980-1982

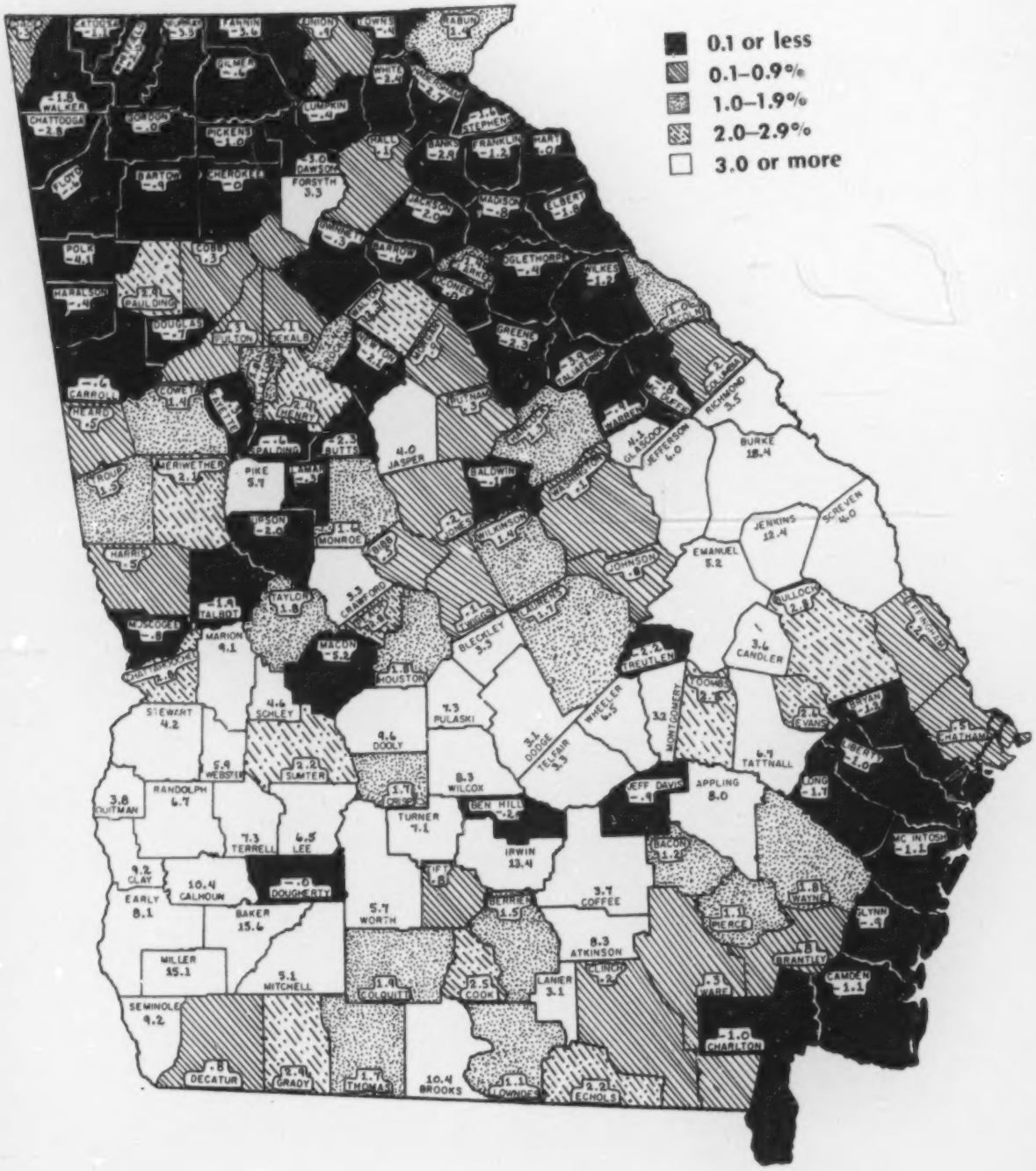


TABLE 7

NOMINAL PER CAPITA PERSONAL INCOME AND ANNUAL AVERAGE RATES OF GROWTH, SELECTED YEARS, FOR GEORGIA, METROPOLITAN AREAS, AND COUNTIES

Area	Per Capita Personal Income (current $)			Annual Average Rate of Growth (%)		
	1970	1980	1982	1970-80	1970-82	1980-82
Georgia	3,323	8,060	9,573	9.3	9.2	9.0
Metropolitan Areas:						
Albany, GA	2,863	7,345	8,655	9.9	9.7	8.6
Athens, GA	2,798	7,035	8,304	9.7	9.5	8.6
Atlanta, GA	4,109	9,867	11,590	9.2	9.0	8.4
Augusta, GA-SC	3,270	7,571	9,219	8.8	9.0	10.3
Chattanooga, TN-GA	3,426	8,044	9,208	8.9	8.6	7.0
Columbus, GA-AL	3,163	7,362	8,558	8.8	8.6	7.8
Macon-Warner Robins, GA	3,469	8,057	9,623	8.8	8.9	9.3
Savannah, GA	3,424	8,271	9,771	9.2	9.1	8.7
Counties						
Metropolitan Portion	3,762	9,010	10,634	9.1	9.0	8.6
Nonmetropolitan Portion	2,630	6,488	7,787	9.4	9.5	9.6
Appling	2,315	5,966	8,157	9.9	11.1	16.9
Atkinson	2,017	5,036	6,922	9.6	10.8	17.2
Bacon	2,507	5,776	6,936	8.7	8.9	9.6
Baker	1,930	4,211	6,596	8.1	10.8	25.2
Baldwin	2,188	6,721	7,855	11.9	11.2	8.1
Banks	2,211	5,225	5,769	9.0	8.2	5.1
Barrow	2,932	7,264	8,402	9.5	9.2	7.5
Bartow	2,989	7,285	8,382	9.3	9.0	7.3
Ben Hill	2,580	6,299	7,353	9.3	9.1	8.0
Berrien	2,679	6,128	7,402	8.6	8.8	9.9
Bibb	3,564	8,657	10,250	9.3	9.2	8.8
Bleckley	2,526	6,101	7,630	9.2	9.6	11.8
Brantley	2,433	4,678	5,563	6.8	7.1	9.0
Brooks	2,538	4,833	6,904	6.7	8.7	19.5
Bryan	2,194	5,214	5,967	9.0	8.7	7.0
Bulloch	2,250	6,251	7,743	10.8	10.8	11.3
Burke	1,970	5,540	9,101	10.9	13.6	28.2
Butts	2,519	6,109	6,835	9.3	8.7	5.8
Calhoun	2,032	5,942	8,486	11.3	12.7	19.5
Camden	2,638	7,707	8,824	11.3	10.6	7.0
Candler	2,713	5,889	7,401	8.1	8.7	12.1
Carroll	2,719	6,975	8,070	9.9	9.5	7.6
Catoosa	2,420	5,548	6,353	8.7	8.4	7.0
Charlton	2,190	5,317	6,101	9.3	8.9	7.1
Chatham	3,466	8,432	9,968	9.3	9.2	8.7
Chattahoochee	3,720	7,352	9,103	7.0	7.7	11.3
Chattooga	2,585	6,102	6,756	9.0	8.3	5.2
Cherokee	2,591	5,935	6,951	8.6	8.6	8.2
Clarke	2,903	7,645	9,223	10.2	10.1	9.8
Clay	1,828	4,259	5,948	8.8	10.3	18.2
Clayton	3,691	9,342	11,333	9.7	9.8	10.1
Clinch	2,239	5,819	6,846	10.0	9.8	8.5
Cobb	3,979	9,307	10,974	8.9	8.8	8.6
Coffee	2,551	5,465	6,886	7.9	8.6	12.3
Colquitt	2,736	6,158	7,484	8.4	8.7	10.2
Columbia	2,588	6,421	7,552	9.5	9.3	8.5
Cook	2,657	5,468	6,732	7.5	8.1	11.0
Coweta	3,069	7,880	9,490	9.9	9.9	9.7
Crawford	2,169	4,384	5,481	7.3	8.0	11.8
Crisp	2,479	6,093	7,276	9.4	9.5	10.0
Dade	2,345	5,556	6,550	9.0	8.9	8.6
Dawson	2,407	6,962	7,678	11.2	10.1	5.0
Decatur	2,289	6,207	7,387	10.5	10.3	9.1
DeKalb	4,690	11,842	13,909	9.7	9.5	8.4
Dodge	2,488	5,642	7,031	8.5	9.0	11.6
Dooly	2,634	6,112	8,600	8.8	10.4	18.6
Dougherty	2,903	7,685	8,997	10.2	9.9	8.2
Douglas	3,115	7,418	8,572	9.1	8.8	7.5
Early	2,291	5,547	7,591	9.2	10.5	17.0
Echols	2,174	5,309	6,494	9.3	9.5	10.6
Effingham	2,853	6,501	7,639	8.6	8.6	8.4
Elbert	2,740	7,209	8,137	10.2	9.5	6.2
Emanuel	2,306	5,534	7,169	9.1	9.9	13.8
Evans	2,460	6,029	7,428	9.4	9.6	11.0
Fannin	2,165	5,671	6,178	10.1	9.1	4.4
Fayette	3,508	8,657	10,076	9.5	9.2	7.9
Floyd	3,352	8,079	9,353	9.2	8.9	7.6
Forsyth	2,716	6,494	8,123	9.1	9.6	11.8
Franklin	2,591	6,197	7,089	9.1	8.7	7.0
Fulton	4,447	11,204	13,203	9.6	9.4	8.6
Gilmer	2,426	6,401	7,406	10.2	9.7	7.6
Glascock	2,726	6,814	8,643	9.6	10.1	12.6
Glynn	3,333	8,798	10,115	10.2	9.7	7.2
Gordon	2,971	6,888	8,066	8.8	8.7	8.2
Grady	2,308	5,729	7,100	9.5	9.8	11.3
Greene	2,058	5,917	6,611	11.1	10.2	5.7
Gwinnett	3,338	8,088	9,413	9.3	9.0	7.9
Habersham	2,398	6,407	7,111	10.3	9.5	5.4
Hall	3,177	8,276	9,720	10.0	9.8	8.4
Hancock	1,855	4,943	5,944	10.3	10.2	9.7

(continued)

TABLE 7 (CONTINUED)

NOMINAL PER CAPITA PERSONAL INCOME AND ANNUAL AVERAGE RATES OF GROWTH, SELECTED YEARS, FOR GEORGIA, METROPOLITAN AREAS, AND COUNTIES

Area	Per Capita Personal Income (current $)			Annual Average Rate of Growth (%)		
	1970	1980	1982	1970-80	1970-82	1980-82
Haralson	3,197	7,216	8,391	8.5	8.4	7.8
Harris	2,530	5,806	6,871	8.7	8.7	8.8
Hart	2,568	6,213	7,280	9.2	9.1	8.2
Heard	2,264	6,910	8,176	11.8	11.3	8.8
Henry	2,920	7,466	9,166	9.8	10.0	10.8
Houston	3,693	7,614	9,237	7.5	8.0	10.1
Irwin	2,570	4,928	7,428	6.7	9.2	22.8
Jackson	2,694	6,561	7,388	9.3	8.8	6.1
Jasper	2,770	7,003	8,866	9.7	10.2	12.5
Jeff Davis	2,635	6,910	7,948	10.1	9.6	7.2
Jefferson	2,308	5,738	7,550	9.5	10.4	14.7
Jenkins	2,105	5,273	7,804	9.6	11.5	21.7
Johnson	2,153	5,453	6,484	9.7	9.6	9.0
Jones	2,191	5,368	6,308	9.4	9.2	8.4
Lamar	2,483	5,932	6,914	9.1	8.9	8.0
Lanier	2,356	5,057	6,295	7.9	8.5	11.6
Laurens	2,616	6,681	8,092	9.8	9.9	10.1
Lee	2,358	4,422	5,873	6.5	7.9	15.2
Liberty[a]	2,548	7,046	8,094	10.7	10.1	7.2
Lincoln	2,055	5,629	6,725	10.6	10.4	9.3
Long	2,188	5,732	6,484	10.1	9.5	6.4
Lowndes	3,094	6,675	7,999	8.0	8.2	9.5
Lumpkin	2,073	5,427	6,301	10.1	9.7	7.8
McDuffie	2,677	6,649	7,663	9.5	9.2	7.4
McIntosh	1,740	5,087	5,829	11.3	10.6	7.0
Macon	2,212	5,983	6,292	10.5	9.1	2.5
Madison	2,536	5,970	6,875	8.9	8.7	7.3
Marion	2,143	5,341	7,453	9.6	10.9	18.1
Meriwether	2,462	5,750	7,028	8.9	9.1	10.6
Miller	2,362	4,733	7,350	7.2	9.9	24.6
Mitchell	2,480	5,473	7,088	8.2	9.1	13.8
Monroe	3,665	6,935	8,380	10.0	10.0	9.9
Montgomery	2,378	5,569	6,945	8.9	9.3	11.7
Morgan	2,664	7,289	8,685	10.6	10.3	9.2
Murray	2,456	6,413	7,019	10.1	9.1	4.6
Muscogee	3,286	7,646	8,818	8.8	8.6	7.4
Newton	2,942	7,483	8,400	9.8	9.1	6.0
Oconee	2,664	5,881	6,889	8.2	8.2	8.2
Oglethorpe	2,149	5,317	6,174	9.5	9.2	7.8
Paulding	2,592	6,321	7,840	9.3	9.7	11.4
Peach	2,787	7,472	9,248	10.4	10.5	11.3
Pickens	2,662	6,672	7,657	9.6	9.2	7.1
Pierce	2,749	5,144	6,165	6.5	7.0	9.5
Pike	2,534	6,183	8,089	9.3	10.2	14.4
Polk	2,684	6,858	7,393	9.8	8.8	3.8
Pulaski	3,046	5,824	7,858	6.7	8.2	16.2
Putnam	2,586	7,573	8,927	11.3	10.9	8.6
Quitman	1,502	3,740	4,719	9.6	10.0	12.3
Rabun	2,282	5,538	6,675	9.3	9.4	9.8
Randolph	2,170	4,549	6,067	7.7	8.9	15.5
Richmond	3,428	7,464	9,373	8.1	8.7	12.1
Rockdale	3,154	7,827	9,423	9.5	9.5	9.7
Schley	2,635	5,892	7,551	8.4	9.2	13.2
Screven	2,184	5,526	7,007	9.7	10.2	12.6
Seminole	2,592	5,682	7,933	8.2	9.8	18.2
Spalding	3,115	7,728	8,949	9.5	9.2	7.6
Stephens	2,663	6,882	7,802	10.0	9.4	6.5
Stewart	1,937	5,012	6,379	10.0	10.4	12.8
Sumter	2,728	6,457	7,897	9.0	9.3	10.6
Talbot	1,789	4,735	5,337	10.2	9.5	6.2
Taliaferro	2,151	6,509	7,046	11.7	10.4	4.0
Tatnall	2,065	5,361	7,147	10.0	10.9	15.5
Taylor	2,370	6,214	7,541	10.1	10.1	10.2
Telfair	2,278	6,586	8,232	11.2	11.3	11.8
Terrell	2,355	5,162	6,968	8.2	9.5	16.2
Thomas	2,877	6,922	8,385	9.2	9.3	10.1
Tift	2,597	6,613	7,875	9.8	9.7	9.1
Toombs	2,473	5,907	7,299	9.1	9.4	11.2
Towns	1,897	5,170	6,013	10.5	10.1	7.8
Treutlen	1,863	5,043	5,647	10.5	9.7	5.8
Troup	3,028	7,478	9,032	9.5	9.5	9.9
Turner	2,584	5,891	7,922	8.6	9.8	16.0
Twiggs	1,888	4,487	5,268	9.0	8.9	8.4
Union	1,867	4,305	5,138	8.7	8.8	9.2
Upson	2,889	6,577	7,397	8.6	8.1	6.1
Walker	3,214	7,073	7,988	8.2	7.9	6.3
Walton	2,736	6,883	8,431	9.7	9.8	10.7
Ware	3,071	7,271	8,564	9.0	8.9	8.5
Warren	2,074	5,792	6,664	10.8	10.2	7.3
Washington	2,518	6,677	7,837	10.2	9.9	8.3

(continued)

TABLE 7 (CONTINUED)

NOMINAL PER CAPITA PERSONAL INCOME AND ANNUAL AVERAGE RATES OF GROWTH, SELECTED YEARS, FOR GEORGIA, METROPOLITAN AREAS, AND COUNTIES

Area	Per Capita Personal Income (current $)			Annual Average Rate of Growth (%)		
	1970	1980	1982	1970-80	1970-82	1980-82
Wayne	2,680	6,710	8,152	9.6	9.7	10.2
Webster	1,941	4,912	6,455	9.7	10.5	14.6
Wheeler	2,271	4,703	6,251	7.5	8.8	15.3
White	2,151	5,525	6,165	9.9	9.2	5.6
Whitfield	3,393	8,078	9,277	9.1	8.7	7.2
Wilcox	2,444	4,997	6,870	7.4	9.0	17.3
Wilkes	2,564	6,845	7,825	10.3	9.7	6.9
Wilkinson	2,336	6,728	8,107	11.2	10.9	9.8
Worth	2,284	5,230	6,851	8.6	9.6	14.5

[a]Series for this area are discontinuous due to a large military wage and salary revision made for 1977-82 only.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, April 1984. Annual average growth rates determined by the Division of Research, College of Business Administration, University of Georgia. Income data are in current dollars.

Figure 3
Annual Average Rates of Growth in Real Per Capita Personal Income, 1970-1982

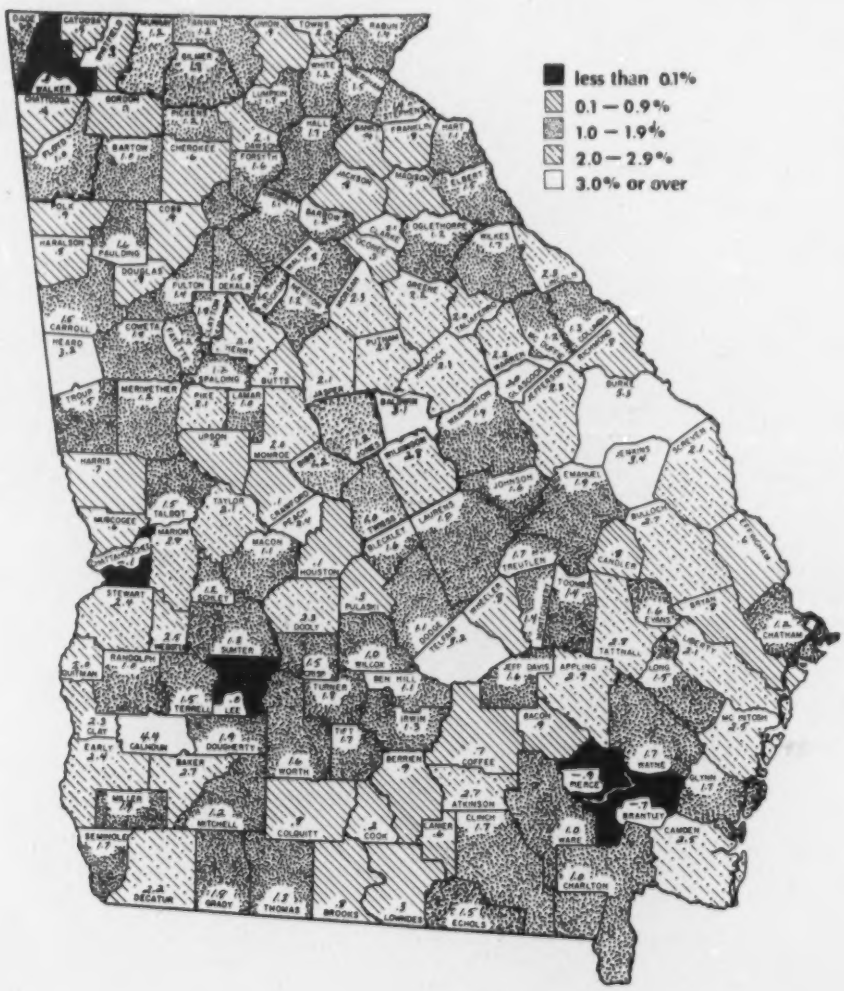


TABLE 8

REAL PER CAPITA PERSONAL INCOME AND ANNUAL AVERAGE RATES OF GROWTH, SELECTED YEARS, FOR GEORGIA, METROPOLITAN AREAS, AND COUNTIES

Area	Per Capita Personal Income (1967 $)			Annual Average Rate of Growth (%)		
	1970	1980	1982	1970-80	1970-82	1980-82
Georgia	2,857	3,266	3,311	1.3	1.2	0.7
Metropolitan Areas:						
Albany, GA	2,462	2,976	2,994	1.9	1.6	0.3
Athens, GA	2,406	2,850	2,872	1.7	1.5	0.4
Atlanta, GA	3,533	3,998	4,009	1.2	1.1	0.1
Augusta, GA-SC	2,812	3,068	3,189	0.9	1.1	2.0
Chattanooga, TN-GA	2,946	3,259	3,185	1.0	0.7	-1.1
Columbus, GA-AL	2,720	2,983	2,960	0.9	0.7	-0.4
Macon-Warner Robins, GA	2,983	3,265	3,329	0.9	0.9	1.0
Savannah, GA	2,944	3,351	3,380	1.3	1.2	0.4
Counties						
Metropolitan Portion	3,235	3,651	3,678	1.2	1.1	0.4
Nonmetropolitan Portion	2,261	2,529	2,694	1.5	1.5	1.2
Appling	1,991	2,417	2,822	2.0	2.9	8.0
Atkinson	1,734	2,041	2,394	1.6	2.7	8.3
Bacon	2,156	2,340	2,399	0.8	0.9	1.2
Baker	1,660	1,706	2,282	0.3	2.7	15.6
Baldwin	1,881	2,723	2,717	3.8	3.1	-0.1
Banks	1,901	2,117	1,996	1.1	0.4	-2.9
Barrow	2,521	2,943	2,906	1.6	1.2	-0.6
Bartow	2,570	2,952	2,899	1.4	1.0	-0.9
Ben Hill	2,218	2,552	2,543	1.4	1.1	-0.2
Berrien	2,304	2,483	2,560	0.8	0.9	1.5
Bibb	3,464	3,508	3,545	1.4	1.2	0.5
Bleckley	2,172	2,472	2,639	1.3	1.6	3.3
Brantley	2,092	1,895	1,924	-1.0	-0.7	0.8
Brooks	2,182	1,958	2,388	-1.1	0.8	10.4
Bryan	1,887	2,113	2,064	1.1	0.8	-1.2
Bulloch	1,935	2,533	2,678	2.7	2.7	2.8
Burke	1,694	2,245	3,148	2.9	5.3	18.4
Butts	2,166	2,475	2,364	1.3	0.7	-2.3
Calhoun	1,747	2,408	2,935	3.3	4.4	10.4
Camden	2,268	3,123	3,052	3.2	2.5	-1.1
Candler	2,333	2,386	2,560	0.2	0.8	3.6
Carroll	2,338	2,826	2,791	1.9	1.5	-0.6
Catoosa	2,081	2,248	2,198	0.8	0.5	-1.1
Charlton	1,883	2,154	2,110	1.4	1.0	-1.0
Chatham	2,980	3,417	3,448	1.4	1.2	0.5
Chattahoochee	3,199	2,979	3,149	-0.7	-0.1	2.8
Chattooga	2,223	2,472	2,337	1.1	0.4	-2.8
Cherokee	2,228	2,405	2,404	0.8	0.6	0.0
Clarke	2,496	3,098	3,187	2.2	2.1	1.4
Clay	1,572	1,726	2,057	0.9	2.3	9.2
Clayton	3,174	3,785	3,920	1.8	1.8	1.8
Clinch	1,925	2,358	2,368	2.0	1.7	0.2
Cobb	3,421	3,771	3,796	1.0	0.9	0.3
Coffee	2,193	2,214	2,382	0.1	0.7	3.7
Colquitt	2,354	2,495	2,589	0.6	0.8	1.9
Columbia	2,225	2,602	2,612	1.6	1.3	0.2
Cook	2,285	2,216	2,329	-0.3	0.2	2.5
Coweta	2,639	3,193	3,283	1.9	1.8	1.4
Crawford	1,865	1,776	1,896	-0.5	0.1	3.3
Crisp	2,132	2,469	2,551	1.5	1.5	1.7
Dade	2,016	2,251	2,266	1.1	1.0	0.3
Dawson	2,070	2,821	2,656	3.1	2.1	-3.0
Decatur	1,968	2,515	2,555	2.5	2.2	0.8
DeKalb	4,033	4,798	4,811	1.8	1.5	0.1
Dodge	2,139	2,286	2,432	0.7	1.1	3.1
Dooly	2,265	2,476	2,975	0.9	2.3	9.6
Dougherty	2,496	3,114	3,112	2.2	1.9	0.0
Douglas	2,678	3,006	2,965	1.2	0.9	-0.7
Early	1,970	2,248	2,626	1.3	2.4	8.1
Echols	1,869	2,151	2,246	1.4	1.5	2.2
Effingham	2,453	2,634	2,642	0.7	0.6	0.2
Elbert	2,356	2,921	2,815	2.2	1.5	-1.6
Emanuel	1,983	2,242	2,480	1.2	1.9	5.2
Evans	2,115	2,443	2,569	1.5	1.6	2.6
Fannin	1,862	2,298	2,137	2.1	1.2	-3.6
Fayette	3,016	3,508	3,485	1.5	1.2	-0.3
Floyd	2,882	3,274	3,235	1.3	1.0	-0.6
Forsyth	2,335	2,631	2,810	1.2	1.6	3.3
Franklin	2,228	2,511	2,452	1.2	0.8	-1.2
Fulton	3,867	4,540	4,567	1.6	1.4	0.3
Gilmer	2,086	2,594	2,562	2.2	1.7	-0.6
Glascock	2,344	2,761	2,990	1.7	2.0	4.1
Glynn	2,866	3,565	3,499	2.2	1.7	-0.9
Gordon	2,555	2,791	2,790	0.9	0.7	0.0
Grady	1,985	2,321	2,456	1.6	1.8	2.9
Greene	1,770	2,397	2,287	3.1	2.2	-2.3
Gwinnett	2,870	3,277	3,256	1.3	1.1	-0.3
Habersham	2,062	2,596	2,460	2.3	1.5	-2.7
Hall	2,732	3,353	3,362	2.1	1.7	0.1
Hancock	1,595	2,003	2,056	2.3	2.1	1.3

(continued)

TABLE 8 (CONTINUED)

REAL PER CAPITA PERSONAL INCOME AND ANNUAL AVERAGE RATES OF GROWTH, SELECTED YEARS, FOR GEORGIA, METROPOLITAN AREAS, AND COUNTIES

Area	Per Capita Personal Income (1967 $)			Annual Average Rate of Growth (%)		
	1970	1980	1982	1970-80	1970-82	1980-82
Haralson	2,749	2,924	2,902	0.6	0.5	-0.4
Harris	2,175	2,353	2,377	0.8	0.7	0.5
Hart	2,208	2,517	2,518	1.3	1.1	0.0
Heard	1,947	2,800	2,828	3.7	3.2	0.5
Henry	2,511	3,025	3,171	1.9	2.0	2.4
Houston	3,167	3,085	3,195	-0.3	0.1	1.8
Irwin	2,210	1,997	2,569	-1.0	1.3	13.4
Jackson	2,316	2,658	2,556	1.4	0.8	-2.0
Jasper	2,382	2,838	3,067	1.8	2.1	4.0
Jeff Davis	2,266	2,800	2,749	2.1	1.6	-0.9
Jefferson	1,985	2,325	2,612	1.6	2.3	6.0
Jenkins	1,810	2,137	2,699	1.7	3.4	12.4
Johnson	1,851	2,209	2,243	1.8	1.6	0.8
Jones	1,884	2,175	2,182	1.4	1.2	0.2
Lamar	2,135	2,404	2,392	1.2	1.0	-0.3
Lanier	2,026	2,049	2,177	0.1	0.6	3.1
Laurens	2,249	2,707	2,799	1.9	1.8	1.7
Lee	2,028	1,792	2,031	-1.2	0.0	6.5
Liberty[a]	2,191	2,855	2,800	2.7	2.1	-1.0
Lincoln	1,767	2,281	2,326	2.6	2.3	1.0
Long	1,881	2,323	2,243	2.1	1.5	-1.7
Lowndes	2,660	2,705	2,767	0.2	0.3	1.1
Lumpkin	1,782	2,199	2,180	2.1	1.7	-0.4
McDuffie	2,302	2,694	2,651	1.6	1.2	-0.8
McIntosh	1,496	2,061	2,016	3.3	2.5	-1.1
Macon	1,902	2,424	2,176	2.5	1.1	-5.2
Madison	2,181	2,419	2,378	1.0	0.7	-0.8
Marion	1,843	2,164	2,578	1.6	2.8	9.1
Meriwether	2,117	2,330	2,431	1.0	1.2	2.1
Miller	2,031	1,918	2,542	-0.6	1.9	15.1
Mitchell	2,132	2,218	2,452	0.4	1.2	5.1
Monroe	2,291	2,810	2,899	2.1	2.0	1.6
Montgomery	2,045	2,256	2,402	1.0	1.4	3.2
Morgan	2,291	2,953	3,004	2.6	2.3	0.9
Murray	2,112	2,596	2,428	2.1	1.2	-3.3
Muscogee	2,825	3,098	3,050	0.9	0.6	-0.8
Newton	2,530	3,032	2,906	1.8	1.2	-2.1
Oconee	2,291	2,383	2,383	0.4	0.3	0.0
Oglethorpe	1,848	2,154	2,136	1.5	1.2	-0.4
Paulding	2,229	2,561	2,712	1.4	1.6	2.9
Peach	2,396	3,028	3,199	2.4	2.4	2.8
Pickens	2,289	2,703	2,649	1.7	1.2	-1.0
Pierce	2,364	2,084	2,132	-1.3	-0.9	1.1
Pike	2,179	2,505	2,798	1.4	2.1	5.7
Polk	2,308	2,779	2,557	1.9	0.9	-4.1
Pulaski	2,619	2,360	2,718	-1.0	0.3	7.3
Putnam	2,224	3,068	3,088	3.3	2.8	0.3
Quitman	1,291	1,515	1,632	1.6	2.0	3.8
Rabun	1,962	2,244	2,309	1.4	1.4	1.4
Randolph	1,866	1,843	2,099	-0.1	1.0	6.7
Richmond	2,948	3,024	3,242	0.3	0.8	3.5
Rockdale	2,712	3,171	3,259	1.6	1.5	1.4
Schley	2,266	2,387	2,612	0.5	1.2	4.6
Screven	1,878	2,239	2,424	1.8	2.1	4.0
Seminole	2,229	2,302	2,744	0.3	1.7	9.2
Spalding	2,678	3,131	3,095	1.6	1.2	-0.6
Stephens	2,290	2,788	2,699	2.0	1.4	-1.6
Stewart	1,666	2,031	2,207	2.0	2.4	4.2
Sumter	2,346	2,616	2,732	1.1	1.3	2.2
Talbot	1,538	1,919	1,846	2.2	1.5	-1.9
Taliaferro	1,850	2,637	2,437	3.6	2.3	-3.9
Tatnall	1,776	2,172	2,472	2.0	2.8	6.7
Taylor	2,038	2,518	2,608	2.1	2.1	1.8
Telfair	1,959	2,669	2,847	3.1	3.2	3.3
Terrell	2,025	2,092	2,410	0.3	1.5	7.3
Thomas	2,474	2,805	2,900	1.3	1.3	1.7
Tift	2,233	2,679	2,724	1.8	1.7	0.8
Toombs	2,126	2,393	2,525	1.2	1.4	2.7
Towns	1,631	2,095	2,080	2.5	2.0	-0.4
Treutlen	1,602	2,043	1,953	2.5	1.7	-2.2
Troup	2,604	3,030	3,124	1.5	1.5	1.5
Turner	2,222	2,387	2,740	0.7	1.8	7.1
Twiggs	1,623	1,818	1,822	1.1	1.0	0.1
Union	1,605	1,744	1,777	0.8	0.9	0.9
Upson	2,484	2,665	2,559	0.7	0.2	-2.0
Walker	2,764	2,866	2,763	0.4	0.0	-1.8
Walton	2,353	2,789	2,916	1.7	1.8	2.3
Ware	2,641	2,946	2,962	1.1	1.0	0.3
Warren	1,783	2,347	2,305	2.8	2.2	-0.9
Washington	2,165	2,705	2,711	2.3	1.9	0.1

(continued)

TABLE 3 (CONTINUED)

REAL PER CAPITA PERSONAL INCOME AND ANNUAL AVERAGE RATES OF GROWTH, SELECTED YEARS, FOR GEORGIA, METROPOLITAN AREAS, AND COUNTIES

Area	Per Capita Personal Income (1967 $)			Annual Average Rate of Growth (%)		
	1970	1980	1982	1970-80	1970-82	1980-82
Wayne	2,304	2,719	2,820	1.7	1.7	1.8
Webster	1,669	1,990	2,233	1.6	2.5	5.9
Wheeler	1,955	1,906	2,162	-0.3	0.8	6.5
White	1,850	2,239	2,132	1.9	1.2	-2.4
Whitfield	2,917	3,273	3,209	1.2	0.8	-1.0
Wilcox	2,101	2,025	2,376	-0.4	1.0	8.3
Wilkes	2,205	2,774	2,707	2.3	1.7	-1.2
Wilkinson	2,009	2,726	2,804	3.1	2.8	1.4
Worth	1,964	2,119	2,370	0.8	1.6	5.7

[a]Series for this area are discontinuous due to a large military wage and salary revision made for 1977-82 only.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, April 1984. Real average annual rates of growth computed by Division of Research, College of Business Administration, University of Georgia, using the U.S. CPI-U, all items, all-city annual averages (1967 = 100) for the respective years.

low growth were concentrated in the northern half of the state, in a band swinging westward below Atlanta, and along the coast. Most counties with relatively high annual average rates of growth were located in agricultural areas, where farm income in 1982 rebounded from abnormally low levels in 1980. A few high-growth counties were located near central cities, or profited from major construction projects.

From 1970 to 1982, the few very low and very high growth counties were scattered over the state (Figure 3). A variety of factors, including the positive effects of military bases, construction of a large utility plant, suburban growth, and manufacturing expansion, affected high-growth counties. Significantly, most metropolitan counties did not have high annual average rates of growth in real per capita incomes, although PCPIs in these counties remained at much higher absolute levels than those for non-metropolitan counties. The large short-run increases and decreases affecting 1982 PCPIs also influenced the longer-run annual average rates of growth.

CONCLUSIONS

Both nominal and real total personal income and per capita personal income increased in Georgia at annual average rates well above those for the nation during 1970-1980, 1980-1983, and 1970-1983. Per capita personal income, however, grew more moderately than total personal income even in metropolitan areas, and remained well below the national average in many counties. County and metropolitan area data through 1982 present a variety of patterns. Large short-run swings in personal income were characteristic of many counties over 1980-1982; over the longer run, changes in annual average rates of growth were much less pronounced. The balance of forces affecting local areas, especially the full impact of the 1981-1982 recession, deserves much more investigation.

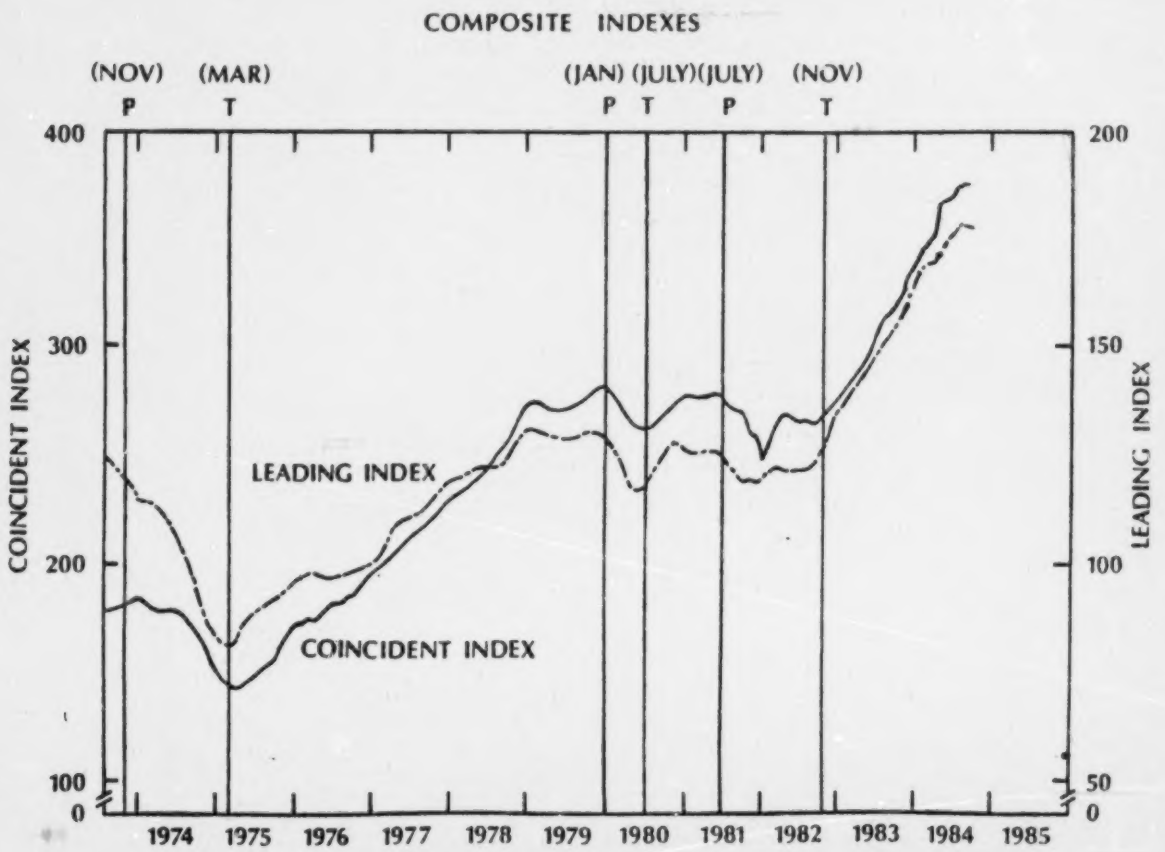
Composite Indexes of Leading and Coincident Georgia Economic Indicators

The state's economy continued to expand in August with the coincident indicator rising 1.8 percent. Increases in seasonally adjusted nonagricultural employment (.5 percent) and in manufacturing's average real weekly earnings (.5 percent) were primarily responsible for this growth. However, seasonally adjusted real retail sales declined 2.1 percent.

A slower rate of economic growth for the remainder of the year may be signaled by the index of leading indicators which showed a 1.8 percent decline in August. Seasonally adjusted unemployment claims and Atlanta's Help Wanted Advertising index both contributed to this downturn. Initial unemployment claims were up 10.5 percent from July to August, while the advertising index dropped 13.3 percent. Following a 15 percent decline in July, seasonally adjusted new housing permits were up 13.9 percent.

The September indicators seemed to bear out earlier predictions of an expected slowdown in Georgia's economic expansion during late 1984 as the index of coincident indicators declined .35 percent. The slight rise of .17 percent in seasonally adjusted nonagricultural employment during the month was not sufficient to offset reductions of 3.02 percent and 1.41 percent in seasonally adjusted real retail sales and manufacturing weekly earnings, respectively.

Meanwhile, the index of leading indicators dropped .63 percent, partly due to a decline in seasonally adjusted new housing permits. Atlanta's Help Wanted Advertising index rebounded somewhat by posting an 8.27 percent increase, although seasonally adjusted initial unemployment claims were down 1.09 percent.



Note: P (peak) indicates the end of general business expansion at the national level and the beginning of recession, T (trough) indicates the end of general business recession at the national level and the beginning of expansion.

GEORGIA BUSINESS STATISTICS

SERIES	SEPT 1984	AUG 1984	JULY 1984	SEPT 1983
Georgia Leading Indicators Index[1] (1969=100)	165.55	166.61	167.99	152.21
Georgia Coincident Indicators Index[1] (1969=100)	377.05	378.38	373.71	303.67
Nonagricultural Employment[2] (thousands)	2450.0	2428.8	2407.5	2309.2
Manufacturing Employment[2] (thousands)	539.3	539.4	532.1	520.1
Average Weekly Earnings, Manufacturing[2] (dollars)	312.83	312.98	308.04	297.74
Help Wanted Advertising, Atlanta Index[3] (1967=100)	275	254	293	189
Taxable Retail Sales[4] ($ millions)	2983.6	2863.6	2938.1	2442.1
Building Permits[5]				
Residential Housing Units, Private (thousands)	5.6	6.6	5.6	5.4
Value of Residential Housing ($ thousands)	220554	263317	210319	200360
Value of Nonresidential Construction ($ thousands)	142842	139568	122540	116408
Industrial Buildings	26291	12957	10148	17551
Office, Bank and Other Professional Buildings	37470	39171	21302	40846
Stores and Other Merchantile Buildings	17767	23133	24895	14952
Other	61314	64307	66195	43059
Consumer Price Index[6] (CPI-U, all items)				
South U.S. (December, 1977 = 100)	-	169.2	-	162.6[a]
South/Population more than 1,250,000	-	168.7	-	162.4[a]
South/Population 385,000 to 1,250,000	-	170.6	-	162.9[a]
South/Population 75,000 to 385,000	-	168.6	-	162.3[a]
South/Population 2,500 to 75,000	-	168.7	-	162.8[a]
Atlanta (1967=100)	-	315.9	-	303.9[a]
Prices Received by Farmers, Georgia Index[7] (1977=100)	129[r]	124[r]	133[r]	135
	1984:II	1984:I	1983:IV	1983:III
Total Personal Income[8] ($ millions)	65867	63582	61863	59811

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[1] Georgia Economic Forecasting Project, Division of Research, College of Business Administration, University of Georgia. Initial monthly values subject to revision.

[2] Labor Information Systems, Georgia Department of Labor

[3] Series published by The Conference Board, Inc.

[4] Derived by the Division of Research, College of Business Administration, University of Georgia, from data of the Sales and Use Tax System, Georgia Department of Revenue

[5] U.S. Department of Commerce, Bureau of the Census

[6] U.S. Department of Labor, Bureau of Labor Statistics, Southeastern Regional Office

[7] Georgia Department of Agriculture, Georgia Crop Reporting Service

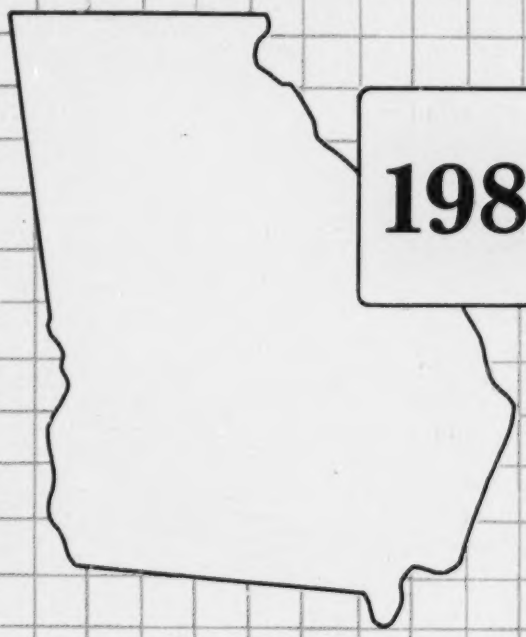
[8] U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System

[a] August, 1983

[r] Revised

GEORGIA STATISTICAL

ABSTRACT



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Georgia's Economic Success and Future Prospects

Albert W. Niemi, Jr.

Georgia's economy has grown at an unprecedented rate in the post-World War II era. It is a remarkable success story and this article outlines the broad dimensions of the state's achievements. In order to provide perspective on the state's performance, Georgia's growth record is compared with that of the nation as a whole and with the other thirteen states in the southern region, including Virginia, West Virginia, North Carolina, South Carolina, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas.

To begin, the article looks at Georgia's real gross state product (GSP), the state equivalent of gross national product (GNP), in 1950, 1960, 1970, 1980, and 1983. Then, changes in the structural composition of the Georgia economy between 1950 and 1983 are examined, and Georgia's industrial structure is compared with that in the national and regional economies. Next, the article looks at comparative economic growth since 1950 in the production of goods and services in Georgia, the southern region, the individual southern states, and the nation as a whole. Comparative performance in labor productivity growth and per capita output growth for the same areas and time span also is reviewed. The study concludes with an assessment of the prospects for the state's future economic growth.

ECONOMIC GROWTH IN GEORGIA, 1950-1983

In real terms (1972 dollars), Georgia's GSP grew from $7.9 billion in 1950 to $34 billion in 1983 (see Table 1). The major industrial sources of the state's GSP include manufacturing ($7.5 billion); wholesale and retail trade ($6.8 billion); finance, insurance, and real estate ($5.2 billion); services ($4.3 billion); transportation, communication, and public utilities ($4.1 billion); and government ($4 billion). Relatively modest contributions to GSP were provided by construction

Table 1
Georgia's Real Gross State Product
(millions of 1972 dollars)

Sector	1950	1960	1970	1980	1983
Mining	29.6	57.9	111.3	112.3	98.6
Construction	514.2	678.2	866.5	1061.1	1183.3
Manufacturing	1763.6	2589.5	4785.7	7660.2	7477.0
Trade	1368.5	2040.8	3904.5	6157.2	6756.1
Transportation, Communication, and Public Utilities	578.3	939.2	2048.6	4007.6	4104.3
Finance, Insurance and Real Estate	886.1	1648.3	2923.6	4883.7	5215.5
Services	771.0	1397.8	2197.0	3311.9	4311.1
Government	1396.3	2154.0	3446.5	3800.5	4041.3
Agriculture	546.5	662.5	736.2	683.3	820.5
Total	7854.1	12168.2	21019.9	31677.8	34007.7

Table 2
Percentage Distribution of Real Gross Product by Major Industry, 1950 and 1983

Sector	Georgia		South		United States	
	1950	1983	1950	1983	1950	1983
Mining	0.4	0.3	3.0	3.3	2.2	1.4
Construction	6.5	3.5	6.7	4.3	5.6	3.4
Manufacturing	22.5	22.0	21.6	22.3	24.9	23.7
Trade	17.4	19.9	15.3	18.0	16.6	17.3
Transportation, Communication, and Public Utilities	7.4	12.1	7.0	9.8	7.5	9.2
Finance, Insurance, and Real Estate	11.3	15.3	9.7	14.5	12.2	16.9
Services	9.7	12.6	11.3	13.8	11.2	13.7
Government	17.8	11.9	17.9	11.4	14.3	11.6
Agriculture	7.0	2.4	7.5	2.6	5.5	2.8

($1.2 billion), agriculture ($821 million), and mining ($99 million).

Over the past several decades, the most rapidly expanding industries have been those producing services. The transportation, communication, and public utilities group of industries lead all others with an average annual growth rate in real output of 6.1 percent for the period 1950-1983. Other growth leaders include finance, insurance, and real estate (5.5 percent); services, a group that includes hotels, motels, restaurants, personal services, health care, laundry and dry cleaning and many other such activities (5.4 percent); and wholesale and retail trade (4.9 percent).

For the period 1950-1983, these are the only four sectors that have grown at a rate above the state average. This superior growth has brought about an increase in the relative strength of the service type industries in Georgia's economy, as shown in Table 2. In 1950 this group of industries accounted for 45.8 percent of the state's GSP; today they account for 59.9 percent of the total. If government is included in the service producing industries, the service group then accounts for 72 percent of Georgia's total output of goods and services.

COMPARATIVE GROWTH IN REAL OUTPUT

Since 1950, Georgia's growth in real output has exceeded national growth by 40 percent. Table 3 reveals that over the period 1950-1983 Georgia's economy grew at an average annual rate of 4.6 percent compared to a national growth rate of 3.3 percent. Georgia's growth has been broadly based and has surpassed national growth in every major sector.

The state's growth also has compared favorably to growth in the South. Overall, Georgia grew at an average annual rate of 4.6 percent compared to a regional average of 4.2 percent. Table 3 indicates that Georgia's growth exceeded the South's growth in all sectors except manufacturing and construction and the differences in these two areas were minor.

Table 4 shows that Georgia's 4.6 percent growth rate in real output exceeded that of all southern states except Florida (5.9 percent) and Texas (4.7 percent). More importantly, Georgia's growth has been smooth and steady throughout the post-World War II era. In fact, if one disregards the energy related expansion in the 1970s in Texas, Oklahoma, and Louisiana, Georgia has consistently ranked as the second fastest growing state in the South, trailing only Florida.

PRODUCTIVITY PERFORMANCE

In the private nonfarm group of industries, Georgia's productivity, as measured by real output per employee, grew 36 percent more rapidly than productivity in the nation as a whole and 27 percent more

Table 3
Average Annual Percentage Rates of Growth in Real Product, 1950-1983

Sector	Ga.	South	U.S.
Mining	3.7	3.6	1.8
Construction	2.6	2.7	1.7
Manufacturing	4.5	4.6	3.1
Trade	4.9	4.6	3.4
Transportation, Communication, and Public Utilities	6.1	5.2	3.9
Finance, Insurance, and Real Estate	5.5	5.3	4.3
Services	5.4	4.8	3.9
Government	3.3	3.0	2.6
Agriculture	1.3	1.0	1.2
Total	4.6	4.2	3.3

Table 4
Comparative Growth in Real Gross Product, 1950-1983
(average annual percentage rate of change)

Region	1950-60	1960-70	1970-80	1950-83
Alabama	3.5	4.2	3.7	3.4
Arkansas	3.0	5.2	4.2	4.0
Florida	7.6	6.1	5.2	5.9
Georgia	4.5	5.6	4.4	4.6
Kentucky	3.0	5.0	3.1	3.2
Louisiana	3.7	4.6	5.4	4.2
Mississippi	3.4	4.9	4.3	3.8
North Carolina	3.7	5.9	3.4	4.0
Oklahoma	3.1	3.6	5.0	3.9
South Carolina	3.7	5.5	4.1	4.0
Tennessee	2.8	5.4	4.0	3.6
Texas	4.0	4.2	6.1	4.7
Virginia	3.5	5.0	3.3	3.6
West Virginia	0.8	3.2	2.9	1.8
South	3.9	5.0	4.6	4.2
U.S.	3.3	4.0	3.0	3.3

Table 5
Average Annual Growth Rate in Real Output per Employee, 1950-1983

Sector	Ga.	South	U.S.
Mining	1.9	2.0	1.4
Construction	−0.6	−0.3	−0.7
Manufacturing	2.7	2.4	2.4
Trade	1.4	1.3	0.9
Transportation, Communication, and Public Utilities	3.6	3.4	3.5
Finance, Insurance and Real Estate	0.9	0.7	1.1
Services	0.7	0.0	0.2
Private Nonfarm	1.9	1.5	1.4

Table 6
Comparative Growth in Real Output per Employee in the Private Nonfarm Sector, 1950-1983
(average annual percentage rate of change)

Region	1950-60	1960-70	1970-80	1950-83
Alabama	1.6	2.2	1.4	1.5
Arkansas	1.4	2.3	1.3	1.5
Florida	1.4	1.4	0.6	1.1
Georgia	2.3	2.2	1.7	1.9
Kentucky	1.7	2.1	0.8	1.3
Louisiana	1.9	2.1	1.6	1.7
Mississippi	1.5	2.0	1.6	1.6
North Carolina	1.5	2.5	1.2	1.6
Oklahoma	1.5	0.9	0.4	0.8
Scuth Carolina	1.8	2.5	1.3	1.7
Tennessee	1.2	2.1	1.7	1.5
Texas	1.5	1.1	1.7	1.4
Virginia	1.6	1.8	0.9	1.3
West Virginia	2.2	2.6	1.0	1.7
South	1.7	1.8	1.3	1.5
U.S.	1.8	1.8	0.7	1.4

rapidly than productivity in the southern region during the period 1950-1983 (Table 5). With the exception of the construction industry where there has been a universal decline in labor productivity, Georgia's rate of productivity advancement has exceeded national growth in every sector except finance, insurance, and real estate.

Table 6 illustrates Georgia's productivity record compared with that of the other southern states. Over the period 1950-1983, Georgia's achievements in productivity surpassed those of every southern state. In a decade by decade breakdown, the 1960s represent the only period when Georgia's rate of productivity advancement failed to match or exceed the growth in every other southern state. This remarkable achievement in worker efficiency is one of the major forces underscoring the superior growth record of the Georgia economy.

PER CAPITA PERFORMANCE

At the beginning of the period studied, 1950, Georgia's per capita output levels lagged behind those in the nation and the region (Table 7). Since then, Georgia's real per capita output growth has been 53 percent greater than the nation's growth, and, in relative terms, it has increased from 65 percent of the national level to 91 percent.

Table 8 shows that Georgia's annual growth in real per capita output (2.9 percent) has exceeded that of the South as a whole (2.6 percent) and also has exceeded growth in all states except Arkansas (3.3 percent) and Mississippi (3.2 percent). Within the South, only Texas and Louisiana have per capita output levels that exceed Georgia's, and this is largely due to the high value energy-based products generated in those economies.

It is interesting to note from Table 9 the general trend toward convergence in per capita output levels that has characterized the South during the past several decades. With a few minor exceptions, those states with traditionally high relative per capita output levels have grown more slowly than states with traditionally low relative per capita output levels. One important exception to this general trend is West Virginia which has suffered a sharp relative decline in recent decades. It is also interesting to note the sharp relative decline in Florida's per capita output. In 1950, Florida had the highest per capita output in the South, and it stood at a level 25 percent above the regional average. In 1983, five southern states had per capita output levels greater than Florida's, whose level of per capita output was below the regional average.

Table 7
Real Per Capita Output, 1950-1983

Year	Georgia	South	U.S.
1950	$2280	$2463	$3488
1960	3076	3107	4067
1970	4563	4434	5271
1980	5798	5690	6403
1983	5933	5704	6517

PROSPECTS FOR THE FUTURE

The performance of the Georgia economy in recent decades has been truly remarkable. There are many factors that have contributed to Georgia's success, notably the following: attractive wage rates and labor conditions; abundant raw materials and water; a favorable climate; the advent of air conditioning; low taxes and low cost of living; improved race relations; and transportation improvements and proximity to

Table 8
Comparative Growth in Real Per Capita Output, United States, South, and Southern States, 1950-1983

Region	Average Growth Rate 1950-83
Alabama	2.6
Arkansas	3.3
Florida	1.7
Georgia	2.9
Kentucky	2.5
Louisiana	2.7
Mississippi	3.2
North Carolina	2.7
Oklahoma	2.6
South Carolina	2.7
Tennessee	2.5
Texas	2.5
Virginia	2.0
West Virginia	1.9
South	2.6
U.S.	1.9

Table 9
Relative Per Capita Output, 1950-83 (South = 100)

Region	1950	1983
Alabama	81.8	82.6
Arkansas	67.9	87.0
Florida	125.3	95.0
Georgia	92.6	104.0
Kentucky	90.4	87.7
Louisiana	104.8	108.2
Mississippi	61.6	76.1
North Carolina	91.4	95.0
Oklahoma	101.2	103.1
South Carolina	79.5	82.4
Tennessee	93.7	91.8
Texas	125.3	121.9
Virginia	122.3	102.4
West Virginia	99.2	78.9

markets. Within this group, the most significant factors have been low wage rates and abundant natural resources.

The impact of labor and resource advantages is best illustrated by the structure of Georgia's manufacturing sector. The data in Table 2 show that manufacturing is the single largest sector in the state's economy, contributing 22 percent of total GSP. Georgia's manufacturing is heavily dominated by labor and/or resource intensive industries. In fact, almost three out of every four manufacturing jobs in the state are found in textiles, apparel, processed foods, lumber and wood products, paper, chemicals, and stone, clay, and glass products.

However, the state cannot continue to rely on cheap labor and natural resource abundance to support future growth. These are important advantages, and they will help to support Georgia's growth in the future. But to a large extent, future growth will be in high technology industries, and this type of growth will put great demands on education.

Georgia and most other southern states have not had a rich tradition of heavy investment in education. This largely reflects the nature of economic activity in the state and region. For years, this area was a rural agricultural society with little need for much education. In recent decades, the transition was made from agriculture to manufacturing and services. Though many of these industries have been labor intensive, they have not required large quantities of high quality labor. This is unlikely to continue into the future.

The next generation of industries will put much greater emphasis on labor quality. Those regions with the ability to meet the demands for high quality labor should do very well. Those regions that are not able to meet the demands for education and training can expect to suffer a relative decline. Some important shifts in relative economic strength are already visible. In the past four years, the most rapidly growing region in the nation has been the Northeast. The economic resurgence of the Northeast has been based on sharp expansion in high tech industries that are attracted by the region's high quality labor force. Over this same four year period, only the Midwest has been growing more slowly than the South.

The only real weakness in the Georgia economy is in the area of education. Currently, Georgia's education expenditures per pupil rank 48th in the nation. This level of support for education is inadequate for future growth and represents a major cloud on the state's horizon. On the other hand, Georgia continues to offer many advantages to industry. If the state is willing to provide the resources necessary to support a quality education program, the only real obstacle to future growth will be removed. Recent developments suggest that Georgia will make this commitment to education, and this will insure that the state will retain its position as the growth leader of the South.

Albert W. Niemi, Jr. is Dean of the College of Business Administration.

The Changing Regional Structure of the U.S. Economy

Part 1

Phillip A. Cartwright

Since the mid-1970s economic analyses have focused upon changes in the regional structure of the U.S. economy. Many of the research reports and monographs have viewed regional adjustments in terms of the North versus the South or the snowbelt versus the sunbelt. Typically, attention is focused on the northern industrial tier of states in the Northeast and East North Central regions, and on the South, which includes the South Atlantic, East South Central, and West South Central states.

The warlike rhetoric characterizing some accounts of changing regional economic conditions is useful to some politicians and news reporters inasmuch as it catches the attention of the general public and helps stimulate regionalism. However spirited, cavalier analyses of regional adjustments based upon arbitrary geographical divisions are likely to be detrimental to the health of the nation's economy and political environment to the extent that such reports (1) convey false impressions of the characteristics and extent of economic decline in some regions and growth in other regions, (2) tend to obscure intra-regional and intrastate economic problems by focusing upon interregional disparities, and (3) divert attention away from attempts to understand the fundamental causes of the nation's economic problems, and toward devising economic and political strategies to foster regional and subregional economic growth and development at the expense of other regions and states.

This article uses recent data to evaluate interregional growth in the northern and southern states in the U.S. Primary focus is placed on growth over the past decade. Because much of the discussion relating to regional adjustments is based upon observations of the relative economic performance of frostbelt and sunbelt states, this analysis is couched in the same framework. The adoption of this scheme is not meant to encourage its use, but rather to point out some of the difficulties encountered in accepting the standard geographic divisions as the fundamental units upon which to base perceptions of the performance of the nation's economy. In fact, it is hoped that this analysis will stimulate readers to think about structural adjustments in different and more meaningful ways.

POPULATION

Population shifts are frequently viewed as a measure of an area's economic vitality. More specifically, population growth rates are generally accepted as a proxy measure for business migration. Table 1 shows population and growth rates over the period 1950 to 1983. Looking first at the growth rates for the Northeast and East North Central regions, it is clear that on a decade-over-decade basis these northern states have posted declining average annual rates of growth since the 1950s. However, in terms of absolute levels, all states in the Northeast and East North Central regions experienced population gains over the 1950-1983 period. In fact, over the periods considered, the only negative annual average rates of growth were recorded in the Northeastern states of Rhode Island and New York during the 1970s and in the East North Central states of Ohio, Indiana and Michigan between 1980 and 1983. These facts are interesting in two respects. First, the data indicate that while population growth rates in northern tier states have declined, population levels have increased. Second, the data reflect the differences between the population growth rates of states within the northern tier. The differences between Northeastern and East North Central states are most pronounced over the 1980-1983 period.

Relative to the northern tier states, on average the southern tier states have experienced higher annual rates of population growth over the 1950-1983 period.

TABLE 1

POPULATION GROWTH PATTERNS BY REGION AND STATE,1950-1983
(000s)

REGION/STATE	YEAR					ANNUAL AVERAGE RATE OF GROWTH				
	1950	1960	1970	1980	1983	1950-1960	1960-1970	1970-1980	1980-1983	1950-1983
Northeast	39,478	44,678	49,061	49,135	49,519	1.25	0.94	0.02	0.26	0.69
Maine	914	969	994	1,125	1,146	0.59	0.26	1.25	0.62	0.69
New Hampshire	533	607	738	921	959	1.31	1.97	2.24	1.36	1.80
Vermont	378	390	445	511	525	0.31	1.33	1.39	0.91	1.00
Massachusetts	4,691	5,149	5,689	5,737	5,767	0.94	1.00	0.08	0.17	0.63
Rhode Island	792	859	950	947	955	0.82	1.01	-0.03	0.28	0.57
Connecticut	2,007	2,535	3,032	3,108	3,138	2.36	1.81	0.25	0.32	1.36
New York	14,830	16,782	18,241	17,558	17,667	1.24	0.84	-0.38	0.21	0.53
New Jersey	4,835	6,067	7,171	7,365	7,468	2.30	1.69	0.27	0.46	1.33
Pennsylvania	10,498	11,319	11,801	11,864	11,895	0.76	0.42	0.42	0.09	0.23
East North Central	30,399	36,225	40,262	41,682	41,531	1.77	1.06	0.35	-0.12	0.95
Ohio	7,947	9,706	10,657	10,798	10,746	2.02	0.94	0.13	-0.16	0.92
Indiana	3,934	4,662	5,195	5,490	5,479	1.71	1.09	0.55	-0.07	1.01
Illinois	8,712	10,081	11,110	11,427	11,486	1.47	0.98	0.28	0.17	0.84
Michigan	6,372	7,823	8,882	9,262	9,069	2.07	1.28	0.42	-0.70	1.08
Wisconsin	3,435	3,952	4,418	4,706	4,751	1.41	1.12	0.63	0.32	0.99
South Atlantic	21,182	25,972	30,678	36,959	38,805	2.06	1.68	1.88	1.64	1.85
Delaware	318	446	548	594	606	3.44	2.08	0.81	0.67	1.86
Maryland	2,343	3,101	3,924	4,217	4,304	2.84	2.38	0.72	0.68	1.86
D.C.	802	764	757	638	623	-0.48	-0.09	-1.70	-0.79	-0.76
Virginia	3,319	3,967	4,651	5,347	5,550	1.80	1.60	1.40	1.25	1.57
West Virginia	2,006	1,860	1,744	1,950	1,965	-0.75	-0.64	1.12	0.26	-0.06
North Carolina	4,062	4,556	5,084	5,882	6,082	1.15	1.10	1.47	1.12	1.23
South Carolina	2,117	2,383	2,591	3,122	3,264	1.19	0.84	1.88	1.49	1.32
Georgia	3,445	3,943	4,588	5,463	5,732	1.36	1.53	1.76	1.62	1.55
Florida	2,771	4,952	6,791	9,746	10,680	5.98	3.21	3.68	3.10	4.17
East South Central	11,447	12,050	12,808	14,666	14,946	0.51	0.61	1.36	0.19	0.81
Kentucky	2,945	3,038	3,221	3,661	3,714	0.31	0.59	1.29	0.48	0.71
Tennessee	3,292	3,567	3,926	4,591	4,685	0.81	0.96	1.58	0.68	1.08
Alabama	3,062	3,267	3,444	3,894	3,959	0.65	0.53	1.24	0.55	0.78
Mississippi	2,179	2,178	2,217	2,521	2,587	0.00	0.18	1.29	0.87	0.52
West South Central	14,538	16,951	19,326	23,747	25,788	1.55	1.32	2.08	3.18	1.75
Arkansas	1,910	1,786	1,923	2,286	2,328	-0.67	0.74	1.74	0.61	0.60
Louisiana	2,684	3,257	3,645	4,206	4,438	1.95	1.13	1.44	1.81	1.54
Oklahoma	2,233	2,328	2,559	3,025	3,298	0.42	0.95	1.69	2.92	1.19
Texas	7,711	9,580	11,199	14,229	15,724	2.19	1.57	2.42	3.39	2.18

Source: U.S. Department of Commerce, Bureau of the Census (1983). Statistical Abstract of the United States, 1984, 104th ed. Washington, D.C.: U.S. Government Printing Office; U.S. Department of Commerce, Bureau of the Census (1984). Estimates of the Population of States: July 1, 1981, to 1983 (Advance Report). Washington, D.C.: U.S. Government Printing Office.

Exceptional strength has been exhibited in the South Atlantic and West South Central regions where Florida and Texas have been dominant areas of population growth. The data for southern tier states show inter-regional and intra-regional differences. For example, between 1950-1983, the annual average rate of growth in the South Atlantic and West South Central regions were 1.9 and 1.8 percent, respectively. These figures contrast sharply with the .8 percent average growth rate recorded in the East South Central region. Further, within the South Atlantic region, the 4.2 percent average growth rate in Florida over the period is well above that for the growth rates for other states in the region, and the 2.2 percent average growth rate in Texas exceeds that shown for neighboring states.

On the basis of the population data shown in Table 1, it appears that the southern tier states generally have grown faster than northern tier states, however, the population has increased in all regions over the 1950-1983 period. There is little doubt about the presence of intra-regional disparities within both the northern and southern tiers. In fact, it appears that one must consider the data on a state-by-state basis in order to gain a clear understanding of trends in population growth. Finally, it is worth noting that, as of 1983, 91.5 million persons resided in the northern tier states and 79.5 million persons resided in the South.

Tables 2 and 3 show data on the components of population change by region and state, reinforcing several of the observations made about the data in Table 1. Namely, the regions in the southern tier have been growing faster than regions in the northern tier. Table 2 suggests that the relative strength of growth in the southern tier has been supported by a significant amount of in-migration and the reduction in the average growth rates of the northern tier states has been attributable in part to out-migration.

MIGRATION PATTERNS

Table 3 indicates the intra-regional differences in migration are dramatic. For example, between 1980 and 1982, the Northeast experienced net out-migration of 108,000 persons, all from Maine, Vermont, New York, and Pennsylvania. The remaining five states recorded net in-migration. Though all of the states in the East North Central region experienced net out-migration, Ohio and Michigan lost the most.

Over the period 1970 to 1980, the only area in the South Atlantic region to experience net out-migration was the District of Columbia. Over the same years, all states within the East South Central and West South Central regions recorded net in-migration. The situation changed considerably between 1980 and 1982. While the aggregate figures show the South Atlantic

TABLE 2

COMPONENTS OF POPULATION CHANGE BY REGION AND STATE, 1970 TO 1980 AND 1980 TO 1982
(000s)

Geographic Area	Population 1970	Births 1970-1980	Deaths 1970-1980	Natural Increase/Decrease	Population 1980	Net Migration
United States	203,302	33,244	19,279	13,965	226,546	9,279
Northeast	49,061	6,661	4,668	1,993	49,135	-1,918
East North Central	40,262	6,454	3,723	2,731	41,682	-1,312
South Atlantic	30,678	5,149	3,088	2,061	36,959	4,220
East South Central	12,808	2,301	1,309	992	14,666	867
West South Central	19,326	3,772	1,848	1,924	23,747	2,497

Source: U.S. Department of Commerce, Bureau of the Census (1983). Statistical Abstract of the United States, 1984. 104th ed. Washington, D.C.: U.S. Government Printing Office; U.S. Department of Commerce, Bureau of the Census (1984). Estimates of the Population of States: July 1, 1981, to 1983 (Advance Report). Washington, D.C.: U.S. Government Printing Office.

TABLE 3

COMPONENTS OF POPULATION CHANGE BY REGION AND STATE, DETAIL
1970 TO 1980 AND 1980 TO 1982
(000s)

Region/State	April 1, 1970 to April 1, 1980			April 1, 1980 to July 1, 1982		
	Births	Deaths	Net Migration	Births	Deaths	Net Migration
Northeast	6,661	4,668	-1,918	1,488	1,059	-108
Maine	161	107	76	37	24	-5
New Hampshire	122	75	136	31	17	17
Vermont	72	44	38	18	10	-3
Massachusetts	737	553	-136	163	127	7
Rhode Island	123	93	-33	28	21	4
Connecticut	391	263	-52	89	60	17
New York	2,481	1,622	-1,542	544	378	-65
New Jersey	981	674	-114	218	152	8
Pennsylvania	1,593	1,238	-292	361	271	-88
East North Central	6,454	3,723	-1,312	1,484	814	-768
Ohio	1,676	992	-543	379	218	-167
Indiana	865	483	-87	194	106	-107
Illinois	1,790	1,072	-402	422	229	-171
Michigan	1,441	767	-294	321	170	-305
Wisconsin	682	408	15	168	91	-17
South Atlantic	5,149	3,088	4,220	1,240	747	761
Delaware	88	49	7	20	11	-1
Maryland	568	331	55	138	76	-13
D.C.	109	77	-150	21	15	-13
Virginia	748	406	354	178	95	61
West Virginia	290	198	113	64	43	-23
North Carolina	863	468	402	190	110	57
South Carolina	498	241	274	117	57	21
Georgia	862	429	442	205	100	71
Florida	1,121	889	2,722	308	239	601
East South Central	2,301	1,309	867	527	297	-86
Kentucky	568	336	208	131	75	-50
Tennessee	664	393	394	150	89	-1
Alabama	615	346	180	140	79	-12
Mississippi	454	235	85	106	53	-23
West South Central	3,772	1,848	2,497	1,018	441	788
Arkansas	349	218	233	82	50	-27
Louisiana	717	346	190	186	80	51
Oklahoma	445	274	295	120	64	95
Texas	2,261	1,010	1,780	630	246	667

Source: U.S. Department of Commerce, Bureau of the Census (1983). Statistical Abstract of the United States, 1984. 104th ed. Washington, D.C.: U.S. Government Printing Office.

TABLE 4

MOBILITY OF THE POPULATION BY REGION, 1980
PERCENT DISTRIBUTION

Region/State	Total 1980	Residence in 1975			
		Same House	Different House, Same County	Different County, Same State	Different County, Different State
Northeast	100.0	61.7	22.3	8.0	6.1
Maine	100.0	56.9	24.0	7.5	10.8
New Hampshire	100.0	51.6	22.8	6.2	18.5
Vermont	100.0	54.4	23.9	6.5	14.3
Massachusetts	100.0	61.0	22.7	7.6	7.0
Rhode Island	100.0	60.5	23.9	5.0	8.7
Connecticut	100.0	59.0	24.4	5.5	9.3
New York	100.0	61.5	22.6	9.3	3.8
New Jersey	100.0	61.5	20.0	6.6	7.8
Pennsylvani_	100.0	65.0	22.0	7.1	5.2
East North Central	100.0	56.0	27.4	9.6	6.0
Ohio	100.0	56.7	27.9	9.0	5.7
Indiana	100.0	54.8	27.5	9.6	7.6
Illinois	100.0	55.5	28.5	8.1	6.1
Michigan	100.0	56.4	26.2	11.3	5.1
Wisconsin	100.0	56.2	25.5	11.0	6.7
South Atlantic	100.0	52.7	22.4	9.7	13.6
Delaware	100.0	57.0	26.3	2.0	13.3
Maryland	100.0	55.5	21.9	10.3	10.4
D.C.	100.0	58.2	22.7	na	16.3
Virginia	100.0	51.0	17.9	15.0	13.9
West Virginia	100.0	60.9	23.4	6.6	8.6
North Carolina	100.0	56.9	23.5	8.9	9.8
South Carolina	100.0	57.5	22.3	7.7	11.5
Georgia	100.0	52.5	22.8	12.2	11.5
Florida	100.0	46.2	23.7	7.8	19.6
East South Central	100.0	56.0	25.9	7.9	9.5
Kentucky	100.0	54.4	27.2	8.6	9.0
Tennessee	100.0	54.2	27.1	7.4	10.6
Alabama	100.0	57.6	25.3	7.4	8.9
Mississippi	100.0	59.0	22.5	8.6	9.2
West South Central	100.0	49.6	25.6	11.8	11.0
Arkansas	100.0	53.1	24.8	9.1	12.4
Louisiana	100.0	57.0	24.3	9.2	8.4
Oklahoma	100.0	47.6	24.9	12.3	13.7
Texas	100.0	47.3	26.2	12.9	11.0

Source: U.S. Department of Commerce, Bureau of the Census (1983). Statistical Abstract of the United States, 1984. 104th ed. Washington, D.C.: U.S. Government Printing Office.

region had net in-migration, four areas (three states and the District of Columbia) experienced net out-migration. Over both the 1970 and 1980 and 1980 to 1982 periods, Florida accounted for well over 60 percent of the total in-migration to the region.

In the East South Central region, while all four states experienced net in-migration during the years from 1970 to 1980, the figures show net out-migration for the 1980 to 1982 period. In the West South Central region, the only state to post net out-migration during either of the two periods for which data are shown was Arkansas during the years 1980 to 1982. Similar to the situation in the South Atlantic region, a single state—Texas—dominated the net migration figures.

Tables 4 and 5 indicate the mobility of the U.S. population. Table 4 shows that over the period 1975 to 1980, the largest percentage of the population remained in the same house and of those moving from one location to another, the majority remained in the same state. The percentage of persons moving into a different county in a different state is generally quite low in the Northeast and East North Central states. On a state-by-state basis, looking only at the northern tier states, the percentages range from 5.1 percent in Michigan to 18.5 percent in New Hampshire. These figures are not surprising given the net migration data reported in Table 3.

Data for the southern states during the same period show that on a percentage basis relative to the northern tier states, fewer individuals remained in the same house. The precentage of individuals living in the same state but in a different house is comparable with the percentage in the northern tier states. As one might expect on the basis of the net migration data, the percentage of individuals living in a different county and a different state is generally much higher than the percentage in the northern tier states. It is interesting that the range extends from 8.4 percent in Louisiana to 19.6 percent in Florida. Thus, while there are differences between the southern states, the range is somewhat lower than that recorded for northern tier states.

In addition to the figures on migration and population mobility, the data on in-migration and out-migration by regions of origin and destination are of interest. The total figures for the 1975 to 1980 period are summarized in Table 5. The South and West experienced net in-migration, while out-migration dominated the net figures for the Northeast and North Central regions. The South received more in-migrants than any other region. The West, North Central (including Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas, in addition to East North Central states), and Northeast regions

TABLE 5

INMIGRANTS, OUTMIGRANTS AND NET POPULATION BETWEEN 1975 AND 1980 BY REGION (000s)

	Inmigrants					Outmigrants				
		Region of Origin					Region of Destination			
Region	Total	Northeast	North Central	South	West	Total	Northeast	North Central	South	West
Northeast	1,275	na	360	654	261	3,059	na	465	1,817	777
North Central	2,125	465	na	1,029	630	3,505	360	na	1,878	1,267
South	4,738	1,817	1,878	na	1,044	2,752	654	1,029	na	1,069
West	3,114	777	1,267	1,069	na	1,935	261	630	1,044	na

Source: U.S. Department of Commerce, Bureau of the Census (1983). Statistical Abstract of the United States, 1984. 104th ed. Washington, D.C.: U.S. Government Printing Office.

followed in descending order. Most of the in-migrants to the South originated in the Northeast and North Central regions, however, the distribution between the northern regions and the West is more even than might be expected. In terms of out-migration, notice that 51.3 percent of the in-migrants to the Northeast region originated in southern states. Further, 48.4 percent of the 2,125,000 in-migrants to the North Central region originated in the South, and of that percentage 68.7 percent located in the East North Central states.

PERSONAL INCOME AND COST OF LIVING

To the extent that popular reports on population shifts may give the impression that the northern tier states are disparate in an absolute sense, the conclusion that the employment situation and the standard of living in the Northeast and East North Central states are deteriorating rapidly is likely to follow. In this section, several measures of general economic activity are analyzed in order to gain insight into the presence and extent of economic welfare shifts between regions and states.

Tables 6 and 7 present data on total and per capita income in current and constant, or inflation adjusted, dollars. Typically, economists view the constant dollar series as the preferable measure of economic well-being, so the primary focus of this analysis will be on the data after adjustment for changes in the general price level. It is also desirable to focus on rates of change in total personal income and the per capita figures in order to mitigate differences owing only to size of the regions or states. For example, constant dollar personal income in the Northeast region in 1983 ranged from $2,445 million in Vermont to $107,723 in New York. It is difficult to make meaningful comparisons on the basis of these numbers.

All states, northern and southern tier, showed gains in real income over the years from 1970 to 1983. Looking at annual average rates of growth in constant dollar income between 1970 to 1983, the range in the Northeast extended from 4.1 percent in New Hampshire to 1.1 percent in New York. In the East North Central region, annual average rates of growth in real income ranged from 2.3 percent in Wisconsin to 1.5 percent in Ohio. The presence of intra-regional differences is significant. The figures for the East North Central states reflect the severity of the recession in that region in 1981-1982. All of the East North Central states, except Illinois, experienced negative annual average rates of real income growth over the years from 1980 to 1983.

Relative to northern tier states, the southern states have fared much better in terms of constant dollar income growth. Over the 1970 to 1983 period, states in the South recorded average real income gains ranging from 1.4 percent in the District of Columbia to 5.6 percent in Florida. Only one of the states in the South—West Virginia—showed a decline in real income over the years 1980 to 1983. On the basis of data analyzed to this point, it should not be surprising that there are significant differences in average growth rates of personal income between regions and states within the South. Heavily supported by growth in Texas, the West South Central states showed the greatest strength, posting a 5.0 average annual percentage change in real income over the fourteen year period. The South Atlantic region came in second, recording a 3.9 percent gain. The growth in Florida dominated with a 5.6 percent annual average advance.

While there are numerous problems associated with use of the per capita income figures shown in Table 7 to measure the economic vitality of one area relative to another, discussion of these problems is beyond the scope of this article. However, to the extent that the problems associated with the numbers pose the same kinds of measurement problems in all areas, and inasmuch as the figures are adjusted for the size of states and regions using a consistent methodology, consideration of the per capita income figures generally will lead to a fair approximation of reality.

In terms of percentage changes, the constant per capita figures presented in Table 7 do not suggest a significantly different pattern from that described previously. That is, all states posted gains over the fourteen year period considered. On average, the southern tier states outperformed the northern tier states in terms of real average per capita income growth; and it is clear that some states within regions have experienced stronger growth than others.

Considering the levels of constant dollar per capita income in 1983, the data in Table 7 show that there are more lower income states in the South than in the regions composing the northern tier states. In 1983, real per capita incomes in states in the Northeast ranged from $4,655 in Vermont to $6,877 in Connecticut, and the range of per capita incomes in the East North Central region extended from $4,901 in Indiana to $5,856 in Illinois.

The range of real per capita incomes in the South Atlantic region ranged from a high of $7,611 in the District of Columbia to a low of $4,145 in West Virginia. The states of the East South Central region recorded a range of $3,744 to $4,342 with Mississippi and Tennessee having the low and high numbers, respectively. In the West South Central region, Texas had the highest real per capita personal income of $5,428 in 1983, and Arkansas had the lowest figure, $4,193.

In evaluating the constant dollar per capita income figures, the intra-regional disparities within the North

TABLE 6

TOTAL PERSONAL INCOME BY REGION AND STATE, CURRENT AND CONSTANT DOLLARS, 1970-1983
(1,000,000 of Dollars)*

	Total Personal Income						Annual Average Rate of Growth					
	Current Dollars			Constant Dollars (1972 = 100)			Current Dollars			Constant Dollars (1972 = 100)		
Region/State	1970	1980	1983	1970	1980	1983	1970-1980	1980-1983	1970-1983	1970-1980	1980-1983	1970-1983
Northeast	217,380	496,752	634,554	237,704	278,417	294,320	8.62	8.50	8.59	1.59	1.87	1.66
Maine	3,292	8,642	11,021	3,600	4,844	5,112	10.13	8.44	9.74	3.01	1.81	2.73
New Hampshire	2,805	8,322	11,141	3,067	4,664	5,167	11.49	10.21	11.19	4.28	3.47	4.09
Vermont	1,576	4,011	5,272	1,723	2,248	2,445	9.79	9.54	9.73	2.70	2.84	2.73
Massachusetts	24,808	57,938	75,479	27,127	32,473	35,009	8.85	9.22	8.94	1.82	2.54	1.98
Rhode Island	3,730	8,702	10,992	4,079	4,877	5,098	8.84	8.10	8.67	1.80	1.49	1.73
Connecticut	14,930	35,920	46,518	16,326	20,132	21,576	9.18	9.00	9.14	2.12	2.34	2.34
New York	85,787	180,723	232,251	93,808	101,291	107,723	7.74	8.72	7.96	0.77	2.07	1.07
New Jersey	34,061	80,960	104,968	37,245	45,376	48,686	9.04	9.04	9.04	1.99	2.37	2.08
Pennsylvania	46,391	111,534	136,912	50,728	62,512	63,503	9.17	7.07	8.68	2.11	0.53	1.74
East North Central	164,711	405,963	481,711	180,110	227,532	223,428	9.44	5.87	8.78	2.36	-0.60	1.67
Ohio	42,368	101,864	120,936	46,329	57,092	56,093	9.17	5.89	8.40	2.11	-0.59	1.48
Indiana	19,433	48,853	57,902	21,250	27,381	26,856	9.66	5.83	8.76	2.57	-0.64	1.82
Illinois	50,232	119,699	145,021	54,928	67,088	67,264	9.07	6.61	8.50	2.02	0.09	1.57
Michigan	35,975	91,363	104,963	39,338	51,207	48,684	9.77	4.73	8.59	2.67	-1.67	1.65
Wisconsin	16,703	44,184	52,889	18,265	24,764	24,531	10.22	6.18	9.27	3.09	-0.31	2.29
South Atlantic	111,034	326,347	427,637	121,415	182,909	198,347	11.39	9.43	10.93	4.18	2.74	3.85
Delaware	2,479	5,995	7,538	2,711	3,362	3,496	9.24	7.91	8.93	2.18	1.31	1.98
Maryland	17,020	43,878	55,934	18,611	24,593	25,943	9.93	8.43	9.58	2.83	1.80	2.59
D.C.	3,605	8,105	10,225	3,942	4,543	4,743	8.44	8.05	8.35	1.43	1.45	1.43
Virginia	17,295	49,892	65,682	18,912	27,963	30,465	11.18	9.60	10.81	3.99	2.90	3.74
West Virginia	5,316	14,949	17,561	5,813	8,379	8,145	10.89	5.51	9.63	3.72	-0.94	2.63
North Carolina	16,419	45,652	58,725	17,954	25,587	27,238	10.77	8.76	10.30	3.61	2.11	3.26
South Carolina	7,730	22,822	29,224	8,453	12,792	13,555	11.43	8.59	10.77	4.23	1.95	3.70
Georgia	15,303	44,187	58,944	16,733	24,766	27,340	11.19	10.03	10.93	4.00	3.35	3.85
Florida	25,867	90,863	123,804	28,285	50,926	57,423	13.39	10.86	12.80	6.06	4.08	5.60
East South Central	37,888	109,172	135,334	41,430	61,188	62,776	11.16	7.43	10.29	3.98	0.86	3.25
Kentucky	10,003	27,987	34,030	10,938	15,686	15,784	10.84	6.73	9.88	3.67	0.21	2.86
Tennessee	12,194	35,202	43,867	13,334	19,730	20,346	11.18	7.61	10.35	4.00	1.03	3.30
Alabama	10,014	29,137	36,562	10,950	16,331	16,958	11.27	7.86	10.47	4.08	1.26	3.42
Mississippi	5,677	16,846	20,885	6,208	9,442	9,687	11.49	7.43	10.54	4.28	0.86	3.48
West South Central	64,750	216,967	288,127	70,804	121,605	133,640	12.85	9.92	12.17	5.56	3.20	5.01
Arkansas	5,353	16,472	21,046	5,853	9,232	9,762	11.90	8.51	11.11	4.66	1.88	4.01
Louisiana	11,100	35,990	46,182	12,138	20,172	21,420	12.48	8.67	11.59	5.21	2.02	4.47
Oklahoma	8,565	27,909	36,896	9,366	15,642	17,114	12.54	9.75	11.89	5.26	3.04	4.75
Texas	39,732	136,596	184,803	43,447	76,559	85,345	13.14	10.44	12.51	5.83	3.69	5.33

*Constant dollar values are adjusted for inflation using the GNP implicit price deflator.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Information System. "Total Personal Income by States and Regions" selected years. Washington, D.C.: U.S. Government Printing Office.

TABLE 7

PER CAPITA INCOME BY REGION AND STATE, CURRENT AND CONSTANT DOLLARS, 1970-1983*

	Per Capita Income						Annual Average Rate of Growth					
	Current Dollars			Constant Dollars (1972 = 100)			Current Dollars			Constant Dollars (1972 = 100)		
Region/State	1970	1980	1983	1970	1980	1983	1970-1980	1980-1983	1970-1983	1970-1980	1980-1983	1970-1983
Northeast	4,431	10,110	12,814	4,845	5,666	5,944	8.60	8.22	8.51	1.58	1.61	1.59
Maine	3,303	7,672	9,619	3,612	4,300	4,462	8.79	7.83	8.57	1.76	1.24	1.64
New Hampshire	3,781	9,011	11,620	4,135	5,050	5,390	9.07	8.85	9.02	2.02	2.20	2.06
Vermont	3,530	7,833	10,036	3,860	4,390	4,655	8.30	8.61	8.37	1.29	1.97	1.45
Massachusetts	4,349	10,089	13,089	4,756	5,655	6,071	8.78	9.07	8.85	1.73	2.39	1.90
Rhode Island	3,924	9,174	11,504	4,291	5,142	5,336	8.86	7.84	8.63	1.83	1.24	1.69
Connecticut	4,913	11,536	14,826	5,372	6,466	6,877	8.91	8.72	8.87	1.87	2.08	1.92
New York	4,695	10,283	13,146	5,134	5,763	6,097	8.16	8.53	8.24	1.16	1.90	1.33
New Jersey	4,737	10,975	14,057	5,180	6,151	6,520	8.77	8.60	8.73	1.73	1.96	1.79
Pennsylvania	3,928	9,389	11,510	4,295	5,262	5,339	9.11	7.03	8.62	2.05	0.49	1.69
East North Central	4,091	9,740	11,599	4,473	5,459	5,380	9.06	6.00	8.35	2.01	-0.48	1.43
Ohio	3,971	9,431	11,254	4,342	5,286	5,220	9.03	6.07	8.34	1.99	-0.42	1.43
Indiana	3,735	8,900	10,567	4,084	4,988	4,901	9.07	5.89	8.33	2.02	-0.58	1.41
Illinois	4,515	10,470	12,626	4,937	5,868	5,856	8.77	6.44	8.23	1.74	-0.07	1.32
Michigan	4,044	9,872	11,574	4,422	5,533	5,368	9.34	5.45	8.42	2.27	-1.00	1.50
Wisconsin	3,774	9,344	11,132	4,127	5,237	5,163	9.49	6.01	8.68	2.41	-0.47	1.74
South Atlantic	3,691	8,830	11,020	3,958	4,949	5,111	9.11	7.66	8.78	2.26	1.08	1.99
Delaware	4,505	10,066	12,442	4,926	5,642	5,771	8.37	7.32	8.13	1.37	0.76	1.23
Maryland	4,322	10,384	12,994	4,726	5,820	6,027	9.16	7.76	8.84	2.10	1.17	1.89
D.C.	4,775	12,372	16,409	5,221	6,934	7,611	10.30	8.82	9.96	2.88	3.15	2.94
Virginia	3,712	9,305	11,835	4,059	5,215	5,489	9.36	9.33	8.35	2.54	1.72	2.35
West Virginia	3,043	7,664	8,937	3,328	4,295	4,145	9.68	5.26	8.64	2.58	-1.18	1.70
North Carolina	3,220	7,753	9,656	3,521	4,345	4,478	9.18	7.59	8.81	2.13	1.01	1.87
South Carolina	2,975	7,298	8,959	3,253	4,090	4,155	9.39	7.05	8.85	2.32	0.53	1.90
Georgia	3,323	8,060	10,283	3,634	4,517	4,769	9.26	8.46	9.08	2.20	1.83	2.11
Florida	3,779	9,202	11,592	4,132	5,157	5,377	9.31	8.00	9.00	2.24	1.40	2.05
East South Central	2,958	7,444	9,055	3,235	4,172	4,200	9.67	6.75	8.99	2.58	0.22	2.03
Kentucky	3,096	7,642	9,162	3,385	4,283	4,250	9.46	6.23	8.70	2.38	-0.26	1.77
Tennessee	3,097	7,660	9,362	3,387	4,293	4,342	9.48	6.92	8.88	2.40	0.38	1.93
Alabama	2,903	7,481	9,235	3,174	4,193	4,283	9.93	7.27	9.31	2.82	0.71	2.33
Mississippi	2,556	6,678	8,072	2,794	3,743	3,744	10.08	6.52	9.25	2.97	0.01	2.28
West South Central	3,350	9,137	11,173	3,664	5,121	5,182	10.55	6.94	9.71	3.40	0.40	2.70
Arkansas	2,773	7,166	9,040	3,032	4,016	4,193	9.96	8.05	9.52	2.85	1.45	2.53
Louisiana	3,041	8,525	10,406	3,325	4,778	4,827	10.86	6.87	9.93	3.69	0.34	2.91
Oklahoma	3,337	9,188	11,187	3,649	5,150	5,189	10.66	6.78	9.75	3.51	0.25	2.75
Texas	3,536	9,538	11,702	3,866	5,346	5,428	10.43	7.05	9.64	3.29	0.51	2.64

*Constant dollar values are adjusted for inflation using the GNP implicit price deflator.

Source: U.S. Department of Commerce, Bureau of Economic Analysis (1984). "Per Capita Personal Income by States and Regions, Selected Years." U.S. Department of Commerce, News, Washington, D.C.: U.S. Government Printing Office.

TABLE 8

INDEXES OF COMPARATIVE COSTS BASED ON AN INTERMEDIATE BUDGET FOR A FOUR-PERSON FAMILY, AUTUMN 1981
(U.S. Urban Average Costs = 100)

Area	Total Budget	Total Consumption	Total Food	Total Housing	Total Transportation	Total Clothing	Personal Care	Medical Care	Other Consumption	Personal Income Taxes
Urban United States	100	100	100	100	100	100	100	100	100	100
Metropolitan Areas	102	102	101	102	100	100	102	103	103	104
Nonmetropolitan Areas	91	93	94	91	98	98	93	88	85	84
Northeast										
Boston, MA	115	112	101	127	117	109	100	91	111	131
Buffalo, NY	104	101	101	99	106	120	96	80	102	120
New York, NY - N.E. NJ	116	109	113	121	91	89	102	100	109	146
Philadelphia, PA - NJ	105	102	112	101	98	71	90	106	102	115
Pittsburgh, PA	97	97	103	89	105	95	96	91	101	97
Nonmetropolitan Areas	102	101	99	109	105	105	88	87	86	105
East North Central										
Chicago, IL - N.W. IN	100	102	99	101	105	90	98	109	117	92
Cincinnati, OH - KY - IN	100	100	102	97	97	121	92	96	98	101
Cleveland, OH	101	102	100	100	99	110	120	100	106	97
Detroit, MI	99	99	101	101	96	90	106	101	97	99
Milwaukee, WI	106	102	97	106	102	114	106	97	103	122
Nonmetropolitan Areas	91	93	93	92	96	107	98	83	88	83
South										
Atlanta, GA	92	93	96	82	97	112	99	90	101	85
Baltimore, MD	99	97	95	99	97	97	97	93	102	108
Dallas, TX	89	95	95	86	103	93	99	113	96	65
Houston, TX	93	98	100	87	99	113	117	117	95	70
Washington, DC - MD - VA	108	103	102	105	99	102	111	102	110	127
Nonmetropolitan Areas	86	89	93	83	97	87	90	89	83	71

Source: U.S. Department of Labor, Bureau of Labor Statistics (1982). Monthly Labor Review 105, p. 45. Washington, D.C.: U.S. Government Printing Office.

and South seem to dominate. While it appears that on the basis of income figures the northern states have a higher standard of living on average, the most dramatic changes have developed between the East North Central region and all other regions considered in this analysis.

It is reasonable to question assertions related to standards of living based on real per capita income figures as these numbers are adjusted for inflation using the general price level as a measure. Thus, it can be argued, the real per capita income figures in Table 7 are difficult to analyze because they ignore differences in costs of living between areas. Table 8 presents indexes of comparative costs of living for selected areas in 1981. Unfortunately, the Bureau of Labor Statistics has discontinued the series, so while these figures are somewhat dated, they are the most recent available. The index numbers in the column labeled total budget indicate the relationship between costs based on an intermediate budget for a four-person family in a given area and for the urban U.S. For example, the total budget index for New York-Northeast New Jersey is 116 while Atlanta's is 92, indicating that budget costs in the former area are above those for the urban U.S. by 16 percent, and those in Atlanta are 8 percent below the U.S. urban average. In general, the data show budget costs tend to be lower in the South than in the East North Central area or in the Northeast, where budget costs are highest. Looking at differences in costs between areas within regions, by far the largest variation is in the Northeast and the least in the East North Central. Generalizations drawn from these figures should be tempered somewhat by suggestions that over time, coincident with regional economic adjustments, costs of living in some areas of the South are rising faster than those in the northern industrial states.

In the next issue, the second part of this article will discuss regional differences in nonagricultural employment, earnings, and federal tax burdens, all of which contribute to the changing structure of the nation's economy.

Phillip A. Cartwright is Director of the Georgia Economic Forecasting Project and Assistant Professor of Economics at The University of Georgia.

The New Mortgage Market: Problems and Solutions

James B. Kau

During the 1970s the housing market came to depend on thrift institutions for housing finance. Regulation Q kept interest payments on savings accounts low, but when interest rates increased savers withdrew their money from thrifts and placed their funds in other financial institutions that paid more. Federal regulators tried to reduce this disintermediation by authorizing new savings certificates that paid market rates. Though this stopped disintermediation, it simultaneously made thrift institutions more susceptible to loss from higher interest rates because now the overall cost of funds increased relative to the yield on mortgage-dominated assets.

In recent years, fluctuating interest rates have severely affected mortgage institutions (see Figure 1). Savings and loans originate mortgages which are typically long-term while their liabilities are short-term. Thus, when interest rates increase, assets such as mortgages decrease in value more than the increased return from liabilities. This happens because the liabilities are short-term and their holders roll them over to capture the benefits of higher interest rates. But savings and loans are strapped to their long-term mortgages so their net worth suffers. Of course, the opposite occurs if interest rates decrease. However, current interest rates are higher than in the past, and savings and loans are in trouble.

The primary culprit seems to be the interest rate. Changes in the money supply by the Federal Reserve cause expected changes in inflation, thus leading to nominal changes in the interest rate. The real component of the nominal interest rate has also been changing, probably due to economic uncertainty and exchange rate problems, but no one knows for certain the reason why.

REAL VERSUS NOMINAL RATES OF INTEREST

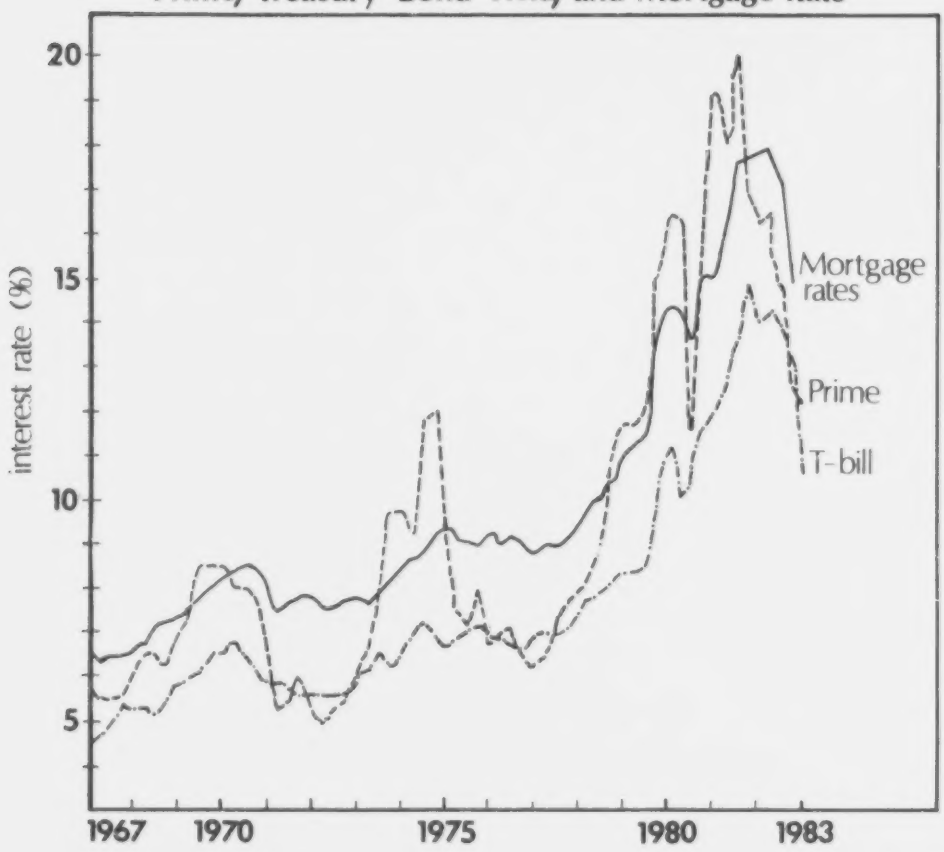
Lenders are concerned with their ability to command resources as a measure of return rather than with sheer numbers of dollars. For example, suppose that A lends B $1,000 to be repaid in one year. The terms state that B is to repay $1,500. A casual analysis shows that A earns a 50 percent interest rate on the loan. Yet if, on average, all items costing $1,000 today will cost $1,450 in a year, the same loan seems less profitable. Why?

The real interest rate relates the amount of resources commanded today to the amount commanded in the future. In the example, $1,000 of consumption foregone today returns $1,500 in a year, but the resources controlled are not 1.5 times as great. It would be worth only 1.03 percent more of today's resources assuming the real rate is 3 percent.

Stated another way, the real interest rate means the nominal rate is adjusted for price changes due to inflation. When prices are stable and no change is expected, interest rates in dollars are equivalent to real rates. Thus the nominal rate is a composite of the real rate and the inflation rate.

If the mortgage rate of interest is 14 percent, the real portion may be 3 percent and the inflation portion 11 percent. It is important to distinguish between them because changes in the inflation rate and the real rate have different effects on real estate values. For example, increases in the inflation rate increases real estate values in nominal terms. On the other hand, increases in the real rate of interest lowers real estate values which may increase the potential for default on mortgages.

Figure 1
Prime, Treasury Bond Yield, and Mortgage Rate



Unfortunately for lenders, increases in real or nominal interest rates cause problems. So, in response, they introduced adjustable rate mortgages (ARMs). Begun in 1981, there is little doubt about ARMs popularity. The conventional mortgage market share of ARMs has increased from 5 percent in the first six months to more than 50 percent in recent months.

ADJUSTABLE RATE MORTGAGES

Introduced as an alternative to standard fixed-rate mortgages, ARMs attractiveness is enhanced by restrictions designed to protect the borrower from rate fluctuations. Among these restrictions are:

1. A rate adjustment made every one to three years on the loan anniversary.
2. A cap which limits each adjustment to a specific range.
3. A lifetime cap which restricts the maximum amount of interest charged over the duration of the loan.
4. Mandatory downward adjustments on the loan, although upward adjustments are at the lender's discretion.
5. A comparison between the fixed-rate mortgage and the ARM with maximum upward rate adjustments.

Table 1 illustrates eight ARM plans though many others are now available. Some of the plans allow negative amortization, whereby the payment may not be enough to cover accrued interest each month. If this occurs, the outstanding loan balance increases rather than decreases. However, provisions usually stipulate that, after five years, negative amortization amounts may result in a loan payment increase exceeding the ARM limitation.

The factors that contribute to the success of ARMs center around pricing, frequency of rate adjustment, caps, indexes, and credit risks. The most important aspect of pricing is the spread between the ARM's initial rate and the market rate for fixed-rate mortgages. The lower initial rate on ARMs allows more borrowers to qualify but simultaneously increases default risk.

The frequency of rate adjustment is also significant. The greater the frequency, the more interest rate risk is taken by the borrower. At present, the three-year

adjustment is the most popular. To limit interest rate risk, borrowers are protected by interest rate caps. These caps shield the borrower from large payment increases during periods of interest rate volatility, so some of the risk is shared with the lender.

An index is used for interest rate adjustments. Because indexes vary, the more stable it is, the better it is. Most mortgage programs use Treasury indexes as a basis. Credit risk affects the lender because possible initial discounts plus higher interest rates could lead to payment shock for the borrower, thus causing the latter to potentially default.

THE REASON FOR ARMs

As discussed earlier, thrift institutions that issue long-term fixed-rate mortgages (FRMs) financed by short-term liabilities are exposed to significant interest rate risk. To solve this problem, they pass that risk on to the borrower by using ARMs, making the borrower vulnerable.

ARMs effectively shorten asset maturities and make assets less sensitive to interest rate changes. In many cases, these mortgages may be offered at lower initial rates than the traditional fixed-rate mortgage. This allows lenders to qualify more borrowers and originate a higher volume of mortgages. But ARMs introduce the potential of greater credit risk and an unknown prepayment schedule.

A SOLUTION

The problem first started because of deregulation to avoid disintermediation caused by Regulation Q. The solution was to allow thrift institutions to compete by offering more attractive securities to the saver, i.e., securities that paid more interest. This, in turn, led to thrift institutions being much more sensitive to interest rate changes. During 1981-1983, when interest rates were on the rise, thrift institutions were suffering tremendous market value losses on their assets (mortgages), while having to pay more on their liabilities (saving certificates). This led many thrift institutions to be in the red.

When deregulation occurred the emphasis was on matching the maturity length of assets and liabilities. Now the solution may lie in thrift institutions using futures and options markets to hedge their investments.

Research suggests that, if properly used, duration-hedging models can reduce the interest rate risk in the thrifts' portfolios. There are a number of advantages to these models. First, by using the concepts of duration, the risk posture of the institution can be determined. That is, it is possible to determine the institution's net worth in market value terms, and how it is affected by interest rate changes. Second, by using the futures market, or selling short to hedge long-term assets from interest rate increases, the thrift is protected from interest rate changes.

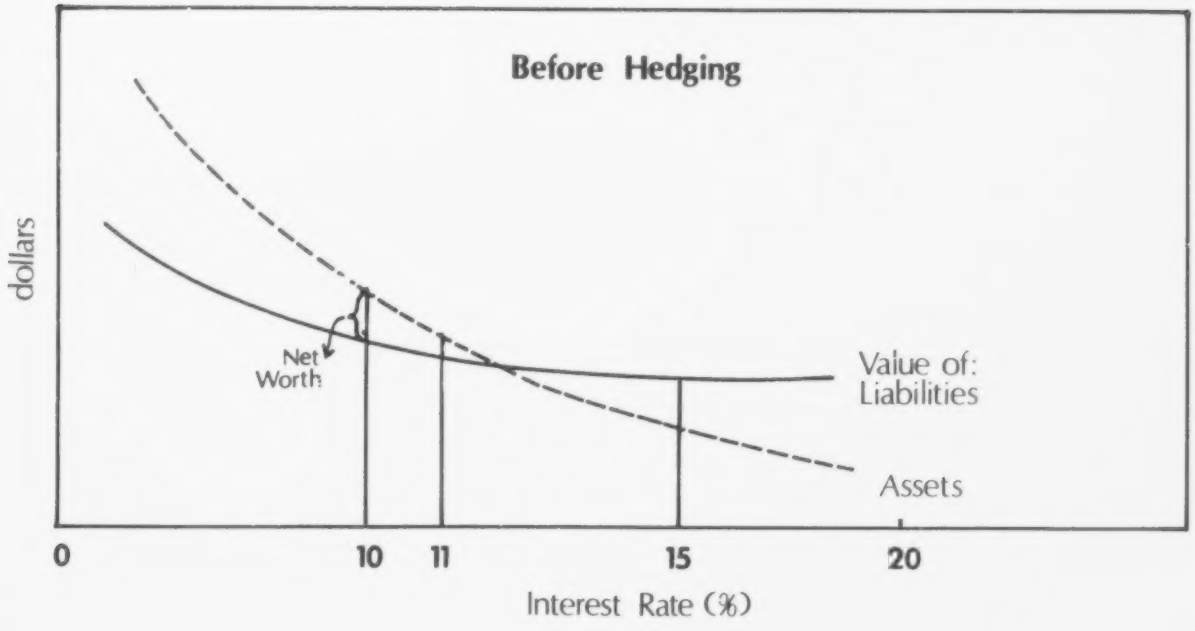
Figure 2 graphically presents what the duration-hedging model will do for a thrift institution. The first part of the figure shows the situation before hedging. This is the typical situation currently found with thrift institutions. The diagram indicates what happens to the net worth of an institution when interest rates increase. As rates increase from 10 to 11 percent, the net worth decreases. At about 15 percent, the net worth becomes significantly negative, not uncommon with thrift institutions today.

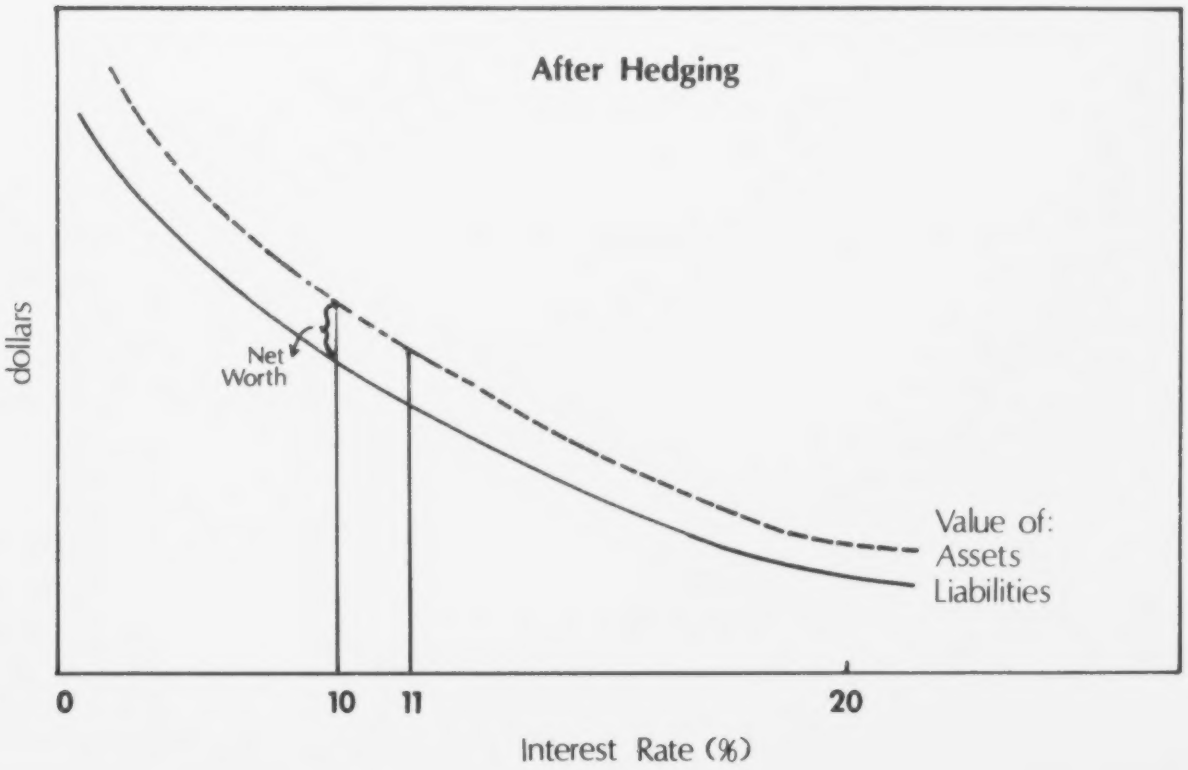
The second part of Figure 2 presents the situation

Table 1
Adjustable Rate Mortgage Options

Plan	Interest Rate Index	Rate Adjustment Period	Payment Adjustment Period	Maximum Rate Adjustment	Maximum Payment Adjustment	Negative Amortization
1	6-month Treasury bill	6 months	6 months	none	7.5%	yes
2	6-month Treasury bill	6 months	3 years	none	none	yes
3	1-year Treasury security	1 year	1 year	none	7.5%	yes
4	3-year Treasury security	2½ years	2½ years	none	18.75%	yes
5	3-year Treasury security	2½ years	2½ years	5%	none	no
6	5-year Treasury security	5 years	5 years	none	none	no
7	FHLBB contract rate	1 year	1 year	none	none	no
8	FHLBB contract rate	1 year	1 year	2%	none	no

Figure 2
Interest Rates and Net Worth





when a hedging strategy is used. In this case, a change from 10 to 11 percent in the interest rate has no effect whatsoever on the institution's net worth. In fact, the net worth is not affected by rate changes.

Procedures are available to provide this kind of protection. Interestingly, if thrift institutions choose to follow this simple hedging procedure, they would not have to issue adjustable rate mortgages. Thrifts would be indifferent to interest rate risk regardless of the type of mortgage they issued. Since ARMS involve more default risk than FRMs, ARMs would probably disappear.

So, if this procedure is relatively simple, why isn't it the logical solution to protect thrifts from interest rate risk? First, some of the procedures are new and only a few firms provide hedging services to the thrift and banking institutions. Second and probably more importantly, the thrift institutions are still highly regulated. Such regulations lead to a management that has a tendency to be risk adverse when accepting new ideas, especially when the return is low because both the Federal Deposit Insurance Corporation (FDIC) and the Federal Savings and Loan Insurance Corporation (FSLIC) insure deposits for their respective members. Because the cost of this insurance does not depend on an institution's interest rate risk exposure, depositors are protected from bad management practices. Thus, the fine edge of competition does not exist with thrift and banking firms, and is probably the reason that such innovative ideas have not appeared.

In summary, regulation started the problem, new regulations created new problems, and the new problems haven't been dealt with efficiently because of continuing regulations. The solution—complete deregulation—is simple but politically difficult.

Given this, the current solution would be to make deposit insurance more expensive for those institutions that appear to be poorly managed and to provide opportunity for the current thrift management to use hedging as a way to reduce rate risk.

James B. Kau is professor of risk management, insurance and real estate at The University of Georgia, and associated with Hilliard and Kau, Financial Risk Consultants, in Athens.

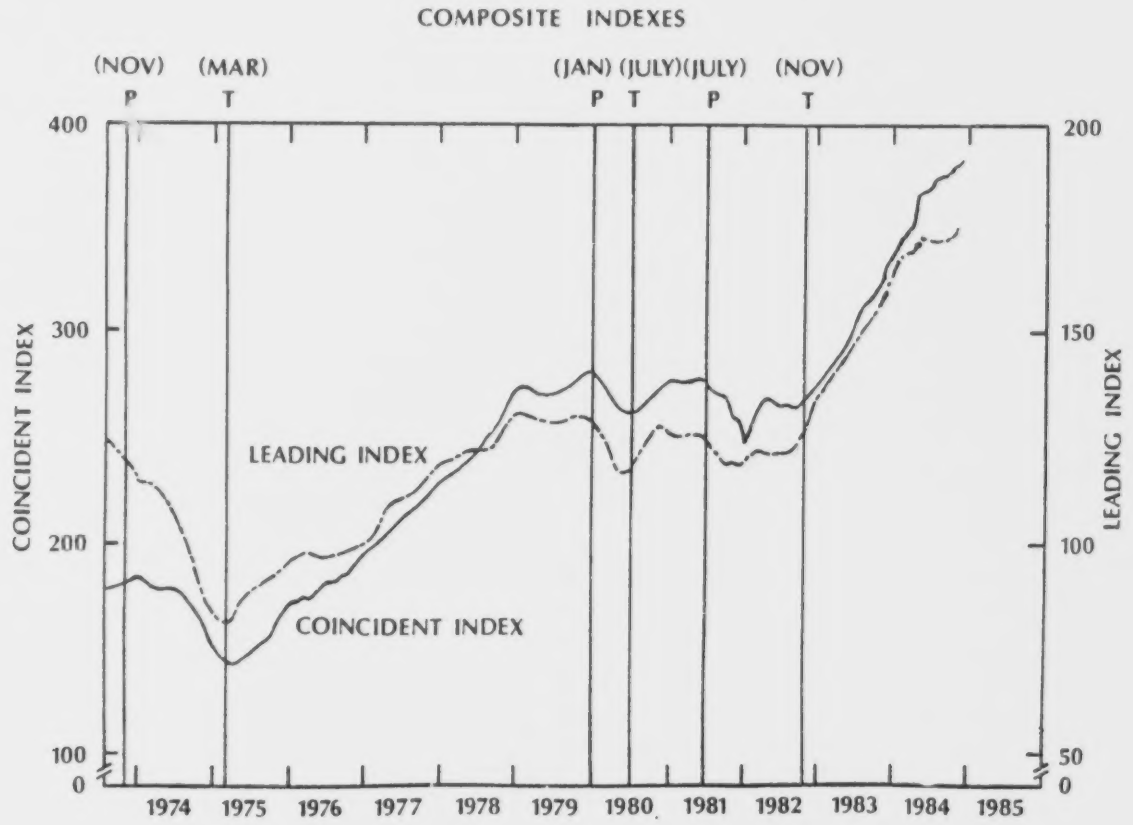
Composite Indexes of Leading and Coincident Georgia Economic Indicators

In October, both leading and coincident indicators showed a slight upturn. After decelerated growth during the summer, the coincident index rose a seasonally adjusted .1 percent. Only manufacturing weekly earnings showed a drop of .4 percent, while both real retail sales and nonagricultural employment rose .1 percent and .7 percent, respectively. In general, there have been minimal changes in the individual components of the coincident indicator during the last four months.

The leading index posted a small rise of 1 percent, bolstered by a substantial 13.5 percent (seasonally adjusted) increase in Atlanta's Help Wanted Advertising index. Seasonally adjusted new housing permits fell again in October, down 7.3 percent; while housing permits dropped 5.6 percent. Initial unemployment claims rose 9 percent, following a slight decline of 1.1 percent of the previous month.

Both indexes continued upward in November, with the coincident indicators rising 2.8 percent. This increase was fueled by moderate growth in all three components: seasonally adjusted real retail sales, up 2.9 percent; real manufacturing weekly earnings up 2.4 percent; and total nonagricultural employment gaining .8 percent.

The index of leading indicators rose 1.5 percent as a result of an increase in the number of new housing permits in November. Seasonally adjusted new housing permits jumped a full 35.6 percent to partially offset changes in the Help Wanted Advertising index and in initial unemployment claims. The advertising index dropped 1 percent, while initial unemployment claims increased 9.2 percent. The recent performance by the indexes suggests continued economic growth in the state for the remainder of the year.



Note: P (peak) indicates the end of general business expansion at the national level and the beginning of recession; T (trough) indicates the end of general business recession at the national level and the beginning of expansion.

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Economic Outlook: Second Quarter 1985

The impressive economic expansion that began in Georgia during the second quarter of 1982 continued through 1984. In order to gain some insight into the strength of the cyclical upturn in the state's economy, consider the relative performance of the employment and income figures.

In 1984, nonagricultural employment advanced 4.5 percent in the U.S. Nonagricultural employment in Georgia is estimated to have risen 7.8 percent. The latest personal income estimates show an increase of 8.7 percent at the national level and a jump of 10.4 percent in Georgia. In real terms, the changes at the national and state levels amount to 4.2 and 5.9 percent.

Other indicators confirm the strength of Georgia's economy. For example, total taxable sales and revenues rose by about 15 and 17 percent, respectively.

In assessing the economic outlook for the next twelve months, it is important to remember that the economy of the state is subject to numerous outside forces, but it has characteristics of its own that will play an important role in future economic developments. The outside forces include the uncertainty over the enactment of credible policies to reduce the budget deficits, the interest rate outlook, and the relative strength of the U.S. dollar in the international economy. Independent of these factors, Georgia possesses valuable features. The state is rich in natural resources. It is the largest state east of the Mississippi River, and has an ample water supply. Its geographic position in the Southeast makes it a strategic transportation hub, and Atlanta is a major commercial center.

The economic forecasts for the state are importantly affected by the presumption that the expansion in the U.S. economy will not break down in the next twelve months. It is anticipated that economic activity will continue to grow, albeit at a rate well below the near 7 percent figure reported for 1984. Inflation will remain relatively low and, on average, interest rates will not rise appreciably. Consistent with this, Georgia employment and income is expected to register gains slightly above those expected at the national level.

Specifically, personal income after adjustment for inflation is expected to rise 4.1 percent at the state level, while income is forecast to rise by about 3.5 percent in the U.S. Nonagricultural employment is forecast to advance by 3 percent in Georgia, while the national figure is expected to climb by 2.5 percent.

Within this picture, there is likely to be strength across all major sectors of the economy. The overall forecast for manufacturing is good despite disparities in performance between industries. Electrical equipment, transportation equipment, and printing and publishing are expected to experience healthy growth in 1985. The outlook for textiles and apparel and lumber and wood products is somewhat less sanguine owing to the persistence of relatively high interest rates and foreign competition. Performance of lumber and wood products is heavily dependent on housing demand.

As has been the case in the recent past, the service sector of the economy is expected to enhance the state's general economic outlook. The outlook for growth in trade; finance, insurance and real estate; and services such as those related to hotels, motels and restaurant services as well as clerical services is extremely good. On average, employment growth in the service sector is expected to be about 4.5 percent with the trade and other services categories leading the way and government on the low side. The continued growth of the services translates into a particularly bright employment picture for the Atlanta metropolitan area.

Because agriculture plays an important role in Georgia's economy, an assessment of the general outlook must include an evaluation of activity in the farm

sector. On balance the farm economy remains relatively weak and the short-term prospects for a rebound are dim. The prevalent problems continue to be low income, high interest rates, and high debt. Because developments in the sector are linked to international economic trends, gains in the U.S. dollar in world currency markets have exacerbated problems of the agricultural community. The forecast for real farm income in Georgia calls for no significant change in 1985 relative to 1984.

Looking at other important indicators of economic activity, after adjustment for inflation, we expect total taxable sales and tax revenues to advance by 6.9 and 5.3 percent, respectively. Housing permits advanced 72 percent in 1983. While the figures remained strong through the first half of 1984, the strength in private units began to weaken during the third quarter. It now appears that permits rose about 6 percent in 1984 and the forecast indicates an increase of about 6 percent in 1985.

Over the short term, it is reasonable to expect Georgia's economic growth rate to remain strong, although in light of the maturity of the current expansion and the outlook for activity at the national level, it would be unreasonable to expect the growth rate in the current year to match that posted in 1984. While the short-term outlook is bright, the problems of education, disparities in growth at the substate level and related policy issues continue to give rise to uncertainty and cloud the intermediate to long-run outlook.

It is encouraging that policy makers have recently demonstrated their awareness and concern over the severity of the economic and social aspects of these problems. Policies for reform such as those set forth by the Governor's Education Review Commission and passed by the legislature indicate the state's willingness to work toward viable solutions and provide cause for optimism.

The "Two Georgias" Problem

Charles F. Floyd

The Georgia economy has made immense strides during the modern era, being transformed from a poor, primarily agrarian society on the eve of the Great Depression into the present strong and diversified economic leader of the Southeast. However, many areas outside metropolitan Atlanta are not sharing in the state's rapid rate of economic growth and prosperity, and so Georgia remains relatively poor in comparison with the rest of the nation. Unless these lagging areas are brought into the economic mainstream the problem of two Georgias—one prosperous and one poor—will become even more acute. In addition, the state's relatively low position in education does not bode well for growth in the high technology industries that promise much of this nation's employment growth during the remainder of the century.

GROWTH AND CHANGE 1950-1980

The Georgia economy has expanded rapidly during the past three decades, and its industrial structure has shifted, the most dramatic change being the declining relative importance of agriculture. An examination of this growth record and some of the structural changes will illustrate these points.

Gross State Product. Gross national product is the dollar value of all goods and services produced in the U.S. in a particular year. The comparable measure at the state level is gross state product. Georgia's real gross state product almost quadrupled during the period, from $7.5 billion in 1950 to $32.3 billion in 1980 (Table 1). This represented an annual growth rate of 4.8 percent, compared to a 4.4 percent annual growth rate for the entire Southeast and 3.4 percent for the United States as a whole.

The leading sectors in terms of their contribution to Georgia's economy are manufacturing ($7.7 billion); wholesale and retail trade ($6.2 billion); finance, insurance, and real estate ($4.9 billion); government ($4.4 billion); and transportation, communications, and utilities ($4 billion). The contributions of construction ($1.1 billion), agriculture ($.07 billion), and mining ($.01 billion) were relatively minor.

During the thirty-year period there were several major structural shifts in the state's economy, and some of these are shown in Figure 1. The relative shares of construction, agriculture, and government declined sharply. On the other hand, those of transportation, communications and public utilities; finance, insurance, and real real estate; and wholesale and retail trade have increased substantially. This latter group of industries accounted for 36.1 percent of Georgia's gross state product in 1950; by 1980 their contribution had risen to 46.6 percent.

Employment. As expected, shifts in the relative contribution to gross state product by the various sectors has been roughly paralleled by relative changes in industry employment. One rather dramatic exception is agriculture, where large increases in productivity have led to tremendous employment declines. The data in Table 2 show that the number of agricultural workers in Georgia fell from around 280,000 in 1950 to approximately 76,000 in 1980. The only other decline occurred in personal services, a consequence of a developing economy which offered better paying jobs in other industries. Another factor influencing the employment decline in agriculture and personal services has been the increasing job opportunities available to blacks, whose employment traditionally has been concentrated in these sectors. During the same period, large absolute and relative employment gains were experienced in a number of industries, including transportation, communications, and public utilities; wholesale and retail trade; finance, insurance, and real estate; and business and professional services.

Figure 1
Georgia Gross State Product
Percent of Total

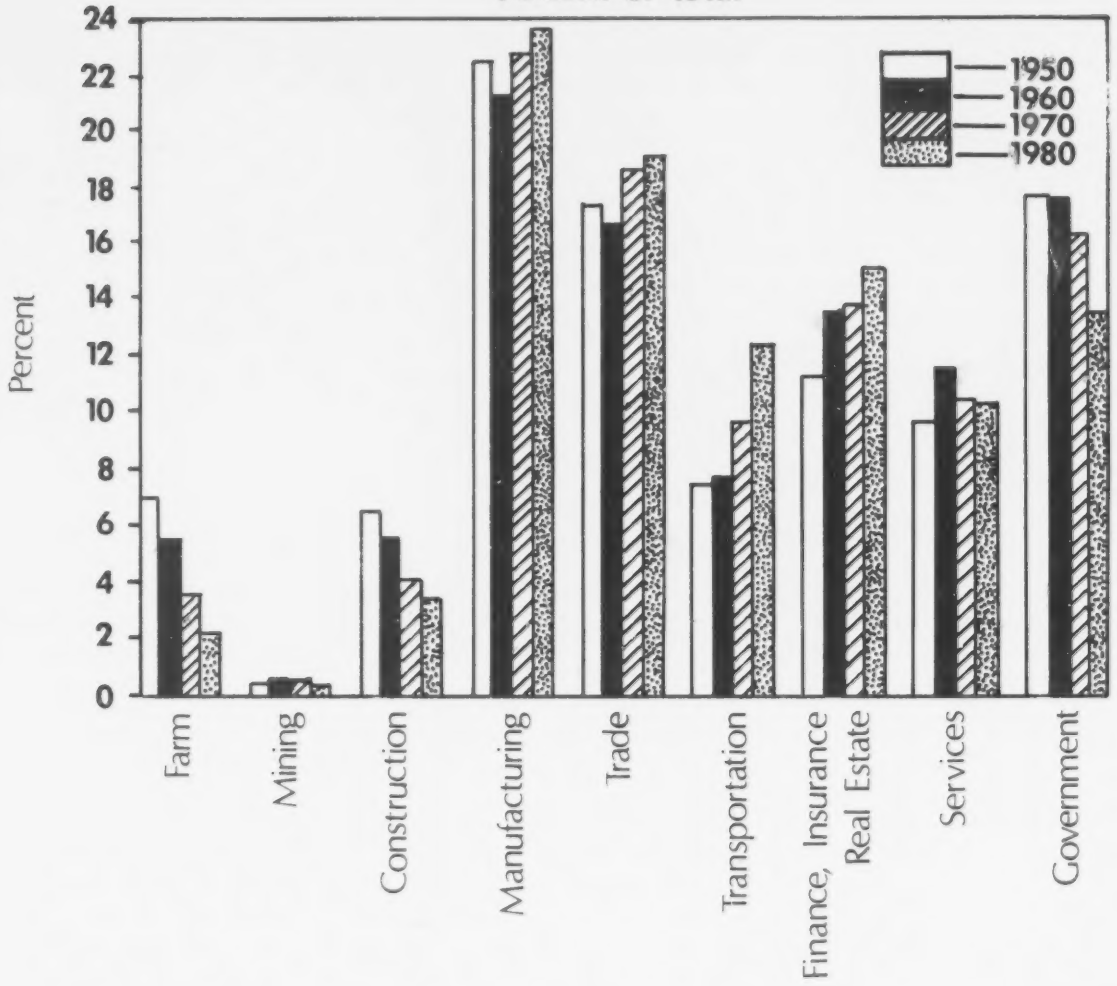

Table 1
Real Gross State Product, By Sector, 1950-1980
(Millions of 1972 Dollars)

Sector	1950	1960	1970	1980	% of Total 1950	% of Total 1980
Farm	546.5	662.5	736.2	683.3	7.0	2.1
Mining	29.6	57.9	111.3	112.3	0.4	0.3
Construction	514.2	678.2	866.5	1,061.1	6.5	3.3
Manufacturing	1,763.6	2,589.5	4,785.7	7,660.2	22.5	23.8
Wholesale and Retail Trade	1,368.5	2,040.8	3,904.5	6,157.2	17.4	19.1
Trans., Comm., and Utilities	578.3	939.2	2,048.6	4,007.6	7.4	12.4
Finance, Insurance, Real Estate	886.1	1,648.3	2,923.6	4,883.7	11.3	15.1
Services	771.0	1,397.8	2,197.0	3,311.9	9.7	10.3
Government	1,396.3	2,154.0	3,446.5	4,382.5	17.8	13.6
Total	7,854.1	12,168.2	21,019.9	32,259.8	100.0	100.0

Source: The University of Georgia, College of Business Administration

Agriculture. The relative decline of Georgia agriculture has been one of the most significant developments in the state's economy during the past three decades. Nevertheless, agriculture still commands a strong emotional attachment from many Georgians far beyond its current economic status, and many still regard Georgia as primarily agricultural. The facts are otherwise: although agriculture still has an important role in providing income to many areas of the state and to many families, its total contribution to Georgia's economy is now relatively small.

As recently as 1950 agriculture accounted for 7 percent of Georgia's gross state product and an even larger share of basic economic activity, that is, activity that brings income into the state. Almost a million Georgians lived on 226,000 farms, which represented 69 percent of the state's available land. By 1980 the portion of gross state product generated directly by the agricultural sector had declined to 2.1 percent, the number of farms had declined to 59,000, the farm population had fallen to only 121,000, and farms accounted for only 37 percent of the state's available land. It is a tribute to the sector that with somewhat less than a fourth of the farmers working the land, and with farmland reduced by almost half, agriculture still generates a larger real product than it did in 1950.

Manufacturing. The largest single sector of the Georgia economy is manufacturing, accounting for approximately 24 percent of both gross state product and employment. The data in Table 3 show that a large portion of manufacturing jobs are in relatively low wage industries—textiles, apparel, food products, lumber and wood products, and furniture. Some of these industries as well as others such as paper and paper products, and stone, clay, and glass products (primarily brick products) depend on the state's natural resources.

Abundant natural resources and attractive wage rates and labor conditions appear to have been the principal factors in attracting manufacturing to Georgia. High technology has played only a small role. For example, less than 5 percent of the state's manufacturing workers are employed in electrical machinery, electronic equipment, instruments, or other technical equipment industries. Since the high technology industries are projected to be the nation's high growth industries as well, Georgia faces a decisive challenge to become competitive in this important area.

Services. The U.S. economy is rapidly becoming a service economy, with the production of services becoming much more important compared to the production of goods. The Georgia economy has followed this national trend. Wholesale and retail trade; transportation, communications, and utilities; finance, insurance, and real estate; and services have all gained in their shares of gross state product and employment. Particularly significant has been the growth of business and repair services, and professional and related services. Together, this part of the service sector now employs almost as many Georgians as does manufacturing. Some of these service employees work for government, partially accounting for the disparity between service employment and gross product produced by the service sector. These sectors are also projected to be rapid growth industries during the coming years, primarily in high technology industries. Here again, Georgia will face great difficulties in continuing its recent record of rapid economic growth unless it can compete for these jobs.

GEORGIA'S REGIONAL GROWTH

Georgia's recent economic and population growth has by no means been uniform. For example, the data for major metropolitan areas presented in Table 4 show that population in the eighteen-county Atlanta metropolitan statistical area increased 27 percent during the 1970s, making Atlanta by far the most rapidly growing metropolitan area in the state. The region, which had 37 percent of Georgia's population in 1970, gained 52 percent of the state's total population increase during the 1970s, and 63 percent of its net in-migration. Of the eighteen counties, only Fulton lost population or experienced net out-migration, and this was due to population decline in the city of Atlanta; the remainder of the county grew rapidly. Of the remaining seventeen counties, only DeKalb grew at a rate less than the state average. Three of the counties, Fayette, Gwinnett, and Rockdale, more than doubled their populations during the decade.

Of the seven other areas designated by the Bureau of the Census as metropolitan statistical areas, only the Athens and Augusta regions grew at greater rates than the state average. Because of the reduction in military personnel stationed at Fort Benning, population in the Columbus MSA actually declined.

The population of the 120 non-metropolitan counties increased by 15.7 percent, a greater rate than in the MSA counties excluding Atlanta. Rates of population growth varied widely, however, as seen in Figure 2. The counties are grouped in five categories, with the thirty-nine most rapidly growing ones shown in black. These areas had population growth rates greater than the average for the Atlanta metropolitan region, 27 percent. The second group of twenty-six counties, marked by stripes, grew more rapidly than the state average, 19.1 percent, but less than 27 percent. Of these two categories of rapid-growth counties almost all were concentrated in the suburban Atlanta region, north Georgia and suburban areas in general, and areas affected by the military.

At the other end of the spectrum were the ten

Table 2
Georgia Employment By Industry 1950-1980

Industry	1950 Number	1950 Percent	1960 Number	1960 Percent	1970 Number	1970 Percent	1980 Number	1980 Percent
Agriculture forestry, fish, mining	282,093	22.49	132,366	9.56	83,348	4.77	76,713	3.28
Construction	71,863	5.73	86,557	6.25	118,660	6.79	150,041	6.42
Manufacturing	288,150	22.97	364,692	26.33	474,961	27.19	562,023	24.06
Transportation communication, public utilities	75,947	6.05	86,760	6.26	122,262	7.00	188,576	8.08
Wholesale and retail trade	201,862	16.09	244,826	17.68	341,000	19.52	472,049	20.21
Finance, insurance, real estate	30,165	2.40	49,918	3.60	79,891	4.57	130,329	5.58
Business and repair services	23,391	1.86	28,057	2.03	46,973	2.69	90,702	3.88
Personal, entertainment, and rec. services	131,886	10.51	145,540	10.51	123,312	7.06	104,742	4.48
Professional and related services	82,058	6.54	134,534	9.71	254,482	14.57	425,186	18.20
Public administration	48,414	3.86	71,988	5.20	101,880	5.83	135,374	5.80
Not reported	18,473	1.47	39,809	2.87	—	—	—	—

Source: U.S. Bureau of the Census

Table 3
Georgia Wage and Salary Manufacturing Employment
1982
(Thousands)

Industry	Employment	Percent of Total	Average Hourly Wage
Manufacturing Total	500.3	100.0	$ 6.75
Durable Goods	178.6	35.7	7.56
Lumber and wood products	27.8	5.6	5.45
Furniture and fixtures	9.5	1.9	5.04
Stone, clay and glass	16.3	3.3	7.47
Primary metals	16.1	3.2	8.72
Fabricated metals	18.1	3.6	6.89
Machinery except electrical	20.8	4.2	n/a
Electrical and electronics	23.4	4.7	7.49
Transportation equipment	34.9	7.0	11.09
Other durable	11.6	2.3	n/a
Nondurable Goods	321.7	64.3	6.31
Food products	58.3	11.7	6.24
Textiles	102.2	20.4	5.82
Apparel	69.1	13.8	4.60
Paper products	27.7	5.5	10.11
Printing and publishing	25.4	5.1	n/a
Chemicals	17.4	3.5	8.21
Leather products	2.2	.4	4.31
Other nondurable	19.4	3.9	n/a

Source: Georgia Department of Labor

Figure 2
Population Change 1970—1980

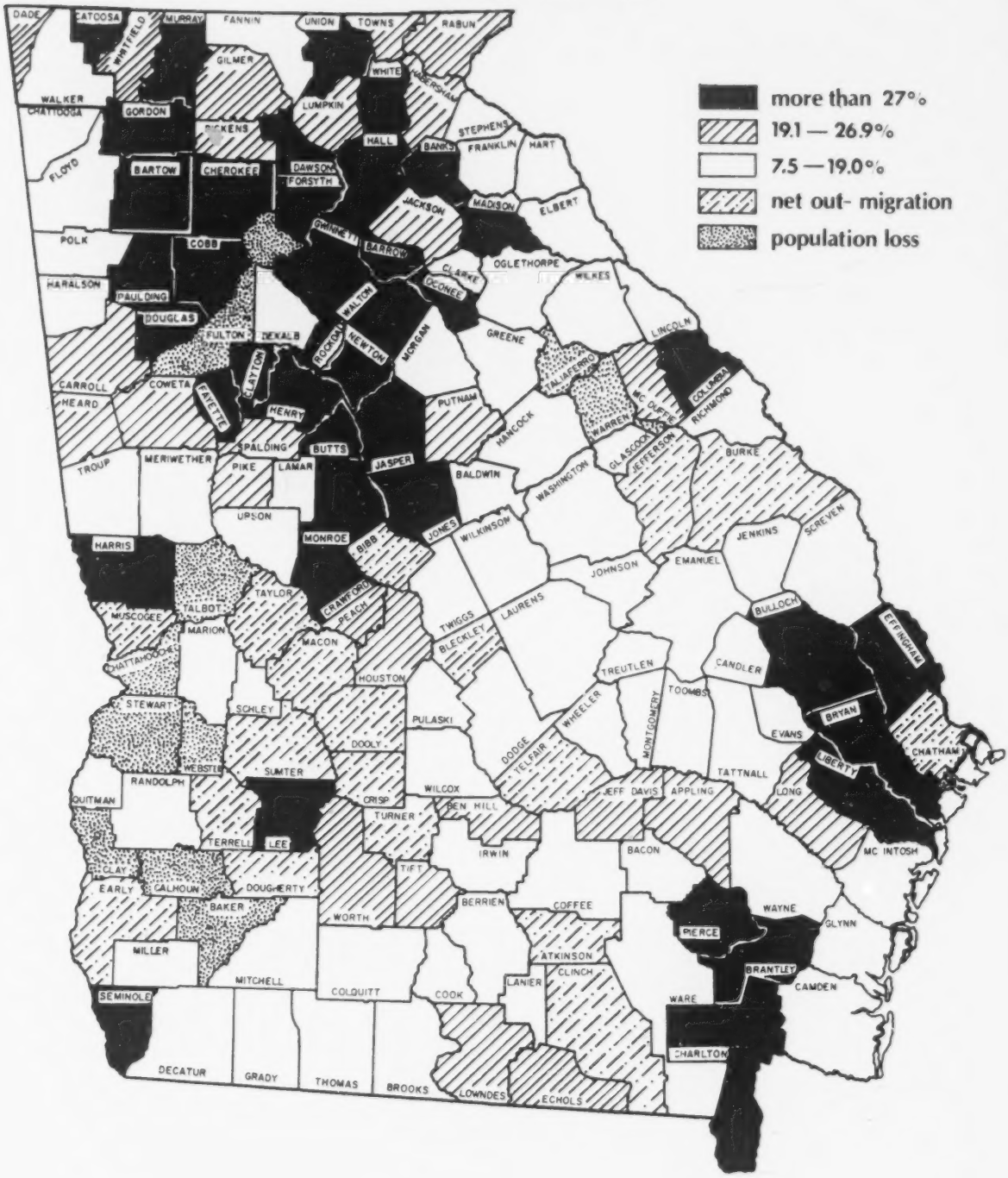

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Table 4
Georgia Population Change 1970-1980
(Thousands)

Area	1970	1980	Change	Percent	Net Migration
Georgia	4,587.9	5,463.1	875.2	19.1	441.6
Atlanta MSA	1,684.2	2,138.2	454.0	27.0	277.2
Non-Atlanta MSA	1,107.4	1,246.0	138.6	12.5	25.8
Albany MSA	96.7	112.4	15.7	16.3	1.5
Athens MSA	107.7	130.0	22.3	20.7	12.6
Augusta MSA (Ga. counties only)	184.8	221.8	37.0	20.0	17.1
Chattanooga MSA (Ga. counties only)	88.9	105.8	16.9	19.0	8.4
Columbus MSA (Ga. counties only)	193.2	191.8	−1.4	−.7	−22.7
Macon MSA	234.6	263.6	29.0	12.4	7.7
Savannah MSA (Ga. counties only)	201.5	220.6	19.1	9.5	1.2
Non-MSA Counties	1,796.3	2,078.9	282.6	15.7	138.6

Source: U.S. Bureau of the Census

counties which lost population during the period, and the twenty which experienced net out-migration, but whose natural increase (excess of births over deaths) still produced a population increase. These slow-growth counties included several metropolitan central-city counties and several that were negatively affected by personnel reductions at military bases. However, most were located in the agricultural areas south of the fall line. Except for the metropolitan counties, almost none of these slow-growth counties were served by major four-lane highways.

The population of the remaining counties, which are unshaded on the map, grew at rates between 7.5 and the state average of 19 percent. These counties are located primarily on the western and eastern fringes of northern Georgia away from the major influence of the Atlanta region or the multi-lane highway system, and in the non-metropolitan areas of southern and central Georgia.

PERSONAL INCOME

Per capita income, that is, average income per person, is computed by dividing total personal income by total population; it is perhaps the best single measure of the economic well-being of an area. The U.S. Department of Commerce's estimates of personal income in Georgia for 1981 are shown in Table 5 and Figure 3.

Although Georgia has enjoyed considerable economic development during the past two decades, these income data clearly show that Georgians remain relatively poor when compared to the United States as a whole. The $8,935 per capita income in 1981 was only 85 percent of the national average, the same relative level as in 1970, and placed Georgia 37th among the states. Of the designated metropolitan areas, only the Atlanta region had a level of per capita income above the national average, and the Macon and Savannah regions were the only other Georgia MSA's above the state average. Per capita income in the non-metropolitan counties stood at only 70 percent of the national average.

Personal income in Georgia counties is highly concentrated in a few areas. Only three of the state's counties had per capita incomes equal or greater than the national average in 1981—Clayton, DeKalb, and Fulton. Only nine others (Bibb, Camden, Chatham, Clarke, Cobb, Fayette, Glynn, Gwinnett, and Hall) had per capita incomes above the state average. This means that the citizens of 147 Georgia counties had average incomes below the state average; 45 counties had average incomes less than 60 percent of the national average.

What conclusions can be drawn from these income data? First, despite its record of economic progress in recent years, Georgia is still a relatively poor state. Outside a few metropolitan areas, average incomes are quite low when compared to those of the average U.S. citizen as a whole, and far below those enjoyed by citizens in the wealthier states. Second, average incomes in almost all of Georgia's rural counties are very low, and raising these income levels must become a high priority objective for the state's policy makers.

Some feel the Department of Commerce's income

Table 5
Georgia Personal Income, 1981

Area	Total Personal Income (dollars)	Population	Per Capita Income (dollars)	Percent of U.S. Average
Georgia	49,802.7	5,573.6	8,935	85
Atlanta MSA	23,872.5	2,200.6	10,848	103
Total Non-Atlanta MSA's	10,358.3	1,246.0	8,313	79
Albany MSA	934.3	115.5	8,088	77
Athens MSA	1,022.7	130.3	7,847	75
Augusta MSA (Ga. counties only)	1,784.9	224.9	7,936	76
Chattanooga MSA (Ga. counties only)	727.0	106.6	6,820	65
Columbus MSA (Ga. counties only)	1,601.9	197.1	8,127	77
Macon MSA	2,224.5	247.4	8,992	86
Savannah MSA (Ga. counties only)	2,063.0	224.2	9,202	88
Non-MSA Counties	15,571.9	2,127.0	7,321	70

Source: Bureau of Economic Analysis, U.S. Department of Commerce

statistics overstate the low relative income of Georgians because the cost of living is also lower here. This argument has some validity; many items such as services which require relatively large inputs of labor are cheaper because Georgia's workers receive lower average wages than workers in most other states. Certain other items, notably housing, are also cheaper. However, most items, and particularly manufactured goods, are sold in national markets where prices vary little from state to state. In other words, the somewhat lower cost of living in Georgia means that average living standards in the state are not quite as low as the unadjusted per capita income figures would indicate, but they are definitely below the national average.

THE TWO GEORGIAS

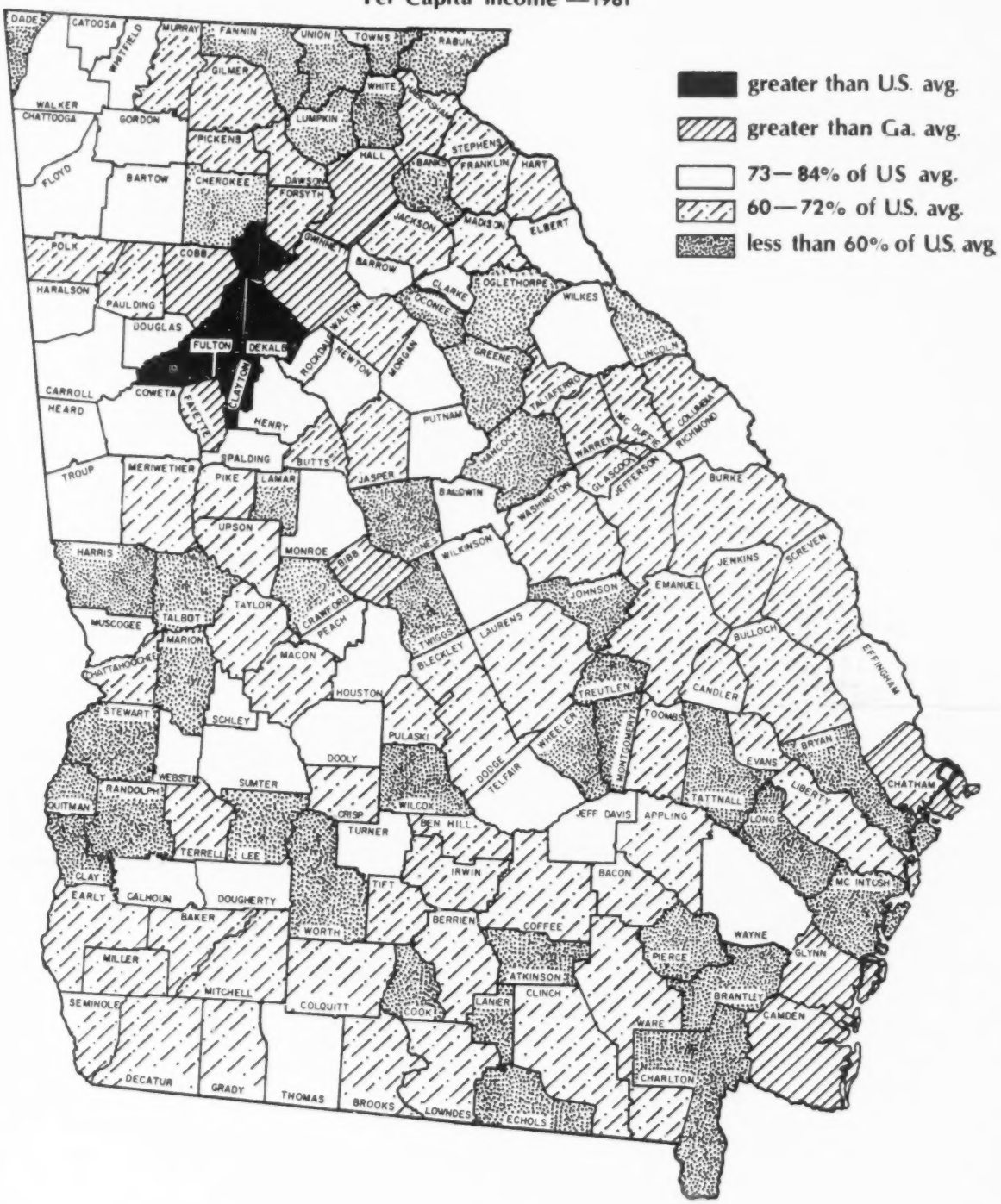
It is clear that analyzing the Georgia economy as a single unit gives a very distorted view which tends to hide the problems of the state's lagging areas. There are two major Georgia sub-economies—the Atlanta metropolitan region and the remainder of Georgia.

To summarize, in 1981 the eighteen counties that comprise the Atlanta MSA enjoyed a level of per capita income that was 103 percent of the national average; the remainder of the state had a per capita income equal to only 73 percent of the national average. There were forty-five counties with a per capita income less than 60 percent of the national average. The Atlanta area had 40 percent of Georgia's population, but 48 percent of the state's personal income. Over 70 percent of manufacturing employment outside the Atlanta area was in the lower wage nondurable goods industries, with 44 percent of manufacturing workers in textiles and apparel, two of the lowest wage industries. By contrast, over half of all Atlanta manufacturing employment was in the higher wage durable goods industries, with 24 percent in transportation equipment and electrical and electronic machinery. The Atlanta region also has much greater shares of its employment in the higher technology and higher paid service, trade, and finance areas.

Much of the Atlanta region's recent growth has been in the high-wage manufacturing industries, particularly in transportation equipment, and electric and electronic equipment manufacturing; contract construction; transportation, communications, and public utilities; trade; finance, insurance, and real estate; professional and business services; and government. This type of growth is characteristic of a regional economy that has reached a more advanced state of development and a relatively high level of per capita income.

In contrast, Georgia's growth record outside the Atlanta metropolitan region has exhibited many of the characteristics common to economically underdeveloped regions that are still moving towards a higher stage of development. These characteristics have included heavy losses in agricultural employment, relatively rapid employment gains in the non-agricultural sector (particularly in the low-wage manufacturing industries), low rates of population growth due to out-migration, and a convergence of per capita incomes towards the national average. The question

Figure 3
Per Capita Income —1981



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now is whether these areas will develop further or whether they will languish as economic backwaters, thereby slowing the economic progress of the entire state.

The data in Table 6 give key economic variables for several regions and counties that are representative of the two Georgias. Not only do they show some of the dimensions of poverty, they clearly indicate the economic contrast between developed and underdeveloped economies. The eighteen counties of the Atlanta MSA, Clayton County, Gwinnett County, and Hall County all have levels of per capita income above the state average. Coffee County, while still a relatively low income area, is a good example of a rapidly developing one. Randolph, Quitman and Clay Counties are quite poor and underdeveloped.

As expected, the poorer counties have a relatively low percentage of their populations employed. This factor is reflected in the high percentage of total personal income coming from net transfer payments (social security payments, public assistance, and government pensions less social security taxes). For example, in high income Clayton County, net transfer payments accounted for only 4.2 percent of total income; in low income Quitman County these payments accounted for almost a third of all income.

The low income status of many of the citizens in low income areas is also reflected in housing data. For example, in Quitman County, which had a per capita income less than half the national average in 1982, 21.8 percent of the homes did not have inside plumbing, and 14.2 percent of the homes had an average of more than one occupant per room, a definite indication of overcrowding. In Clayton County less than one percent of the homes lacked indoor plumbing, and only 2.9 percent had an average of more than one occupant per room.

The characteristics that are associated with a relatively poor and underdeveloped economy are: (1) a low percentage of the population in the labor force; (2) a high percentage of employment in agriculture; and (3) a low percentage of employment in the trade, finance and business services industries. Conversely, a relatively wealthy and developed economy would have: (1) a high percentage of the population in the labor force; (2) a low percentage of employment in agriculture; and (3) a high percentage of employment in the trade, finance and business services sectors. These are the characteristics exhibited by our sample areas. The higher income areas have a large portion of their total earnings coming from the trade, finance and business services areas. In Clayton County, which contains the Atlanta airport, the transportation sector accounts for almost half of total earnings. On the other

Table 6
Selected Economic Indicators, Georgia Areas and Counties

	Georgia	Ga. MSAs	Ga. – non-MSA	Atlanta MSA	Clayton	Gwinnett	Hall	Coffee	Randolph	Quitman	Clay
Per capita income	9,573	10,634	7,787	11,590	11,333	9,413	9,720	6,886	6,067	4,719	5,948
Percent of U.S.	86	96	70	104	102	85	88	62	55	43	54
Net transfer payments as % of total income	9.1	7.1	13.7	5.0	4.2	3.6	9.2	14.9	21.0	30.7	20.8
1980 population (thousands)	5,642.0	3,540.0	2,102.0	2,243.1	155.6	199.2	78.1	27.5	9.6	2.3	3.5
% change '70-'80	19.0			27.0	76.9	509.5	27.3	17.8	9.9	8.1	−2.3
% Black	26.8	26.8	26.9	24.6	7.0	2.5	9.0	25.4	56.0	56.7	62.1
% in labor force:											
Male	75.8	78.1	72.2	79.4	86.2	86.3	78.4	71.7	62.3	61.0	60.2
Female	52.3	54.6	48.8	57.0	58.6	60.1	53.7	46.2	40.7	38.8	36.6
Earnings as % of total earnings:											
Farm	1.9	.4	6.0	.2	.0	.2	2.1	8.7	15.7	19.8	35.8
Manufacturing	22.4	18.4	33.3	16.5	8.1	33.1	36.8	33.2	27.7	11.3	13.4
Trade	16.6	17.8	13.9	23.9	20.6	23.4	16.6	17.6	15.6	19.9	14.1
Fin., ins., real estate	5.7	6.7	3.0	7.5	1.9	3.5	4.3	3.4	3.7	3.2	n/a
Government	19.2	19.1	19.5	14.1	11.0	10.4	15.7	18.5	18.9	31.2	31.8
Housing characteristics:											
% without plumbing	3.8	1.7	6.9	1.5	.7	1.2	2.5	3.8	15.8	21.8	19.1
% with more than 1 person per room	5.3	4.2	7.0	4.7	2.9	2.0	4.4	7.7	11.7	14.2	10.7

Source: U.S. Department of Commerce, Bureau of economic Analysis and Bureau of the Census

hand, agriculture accounts for a large portion of earning in the underdeveloped agrarian economies.

Coffee County offers a good example of a developing area. It still has a per capita income less than two-thirds the national average. Though still dependent on agriculture for a relatively large portion of earnings, and on net transfer payments for a relatively large portion of total income, recent highway improvements have given it greatly improved access to markets. Expansion in the manufacturing sector has increased the percentage of the population employed to levels nearing the state average and significantly above those found in the poorer counties.

FUTURE CHALLENGES

It should be apparent from this brief survey of the Georgia economy that the state has made tremendous progress during recent years, but the continuation of this growth is by no means assured. The relatively low level of average current income for Georgians hardly gives reason for complacency regarding the state's economic future, particularly since it actually represents a drop in relative position among the states since 1970. The number and quality of new jobs must grow quite rapidly if Georgia is to maintain its present economic position.

Georgia enjoys many competitive advantages in economic development, including favorable labor costs and conditions, natural resources, climate, and taxes. These factors should continue to give Georgia an advantage in attracting the traditional manufacturing and other industries which have paced the state's growth. But with the changing structure of the national and world economies, these traditional industries will be less important in the future. Rapid growth and further improvement in per capita income levels depend on the state being a leader in high technology industries, and it is highly trained labor that is of major competitive importance in attracting these industries, not cheap labor, abundant natural resources, or low taxes. Unfortunately, Georgia does not have the stock of highly trained individuals these industries require, particularly in many of the rural areas. The state's expenditures for education per pupil are among the very lowest in the nation, and with recent initiatives to improve education in other southern states, Georgia is slipping further and further behind. Unless it takes immediate steps to improve the level of education and training of its workers, Georgia definitely will be at a severe disadvantage in this vital area.

Another vital need is to improve the state's multilane highway system to enable the many communities that are not adequately served by highways to compete for economic growth and development. Good transportation facilities alone are not sufficient for economic development in the absence of other important growth elements, but they are definitely necessary. Georgia has an excellent interstate highway system, but the multi-lane highways off the interstate system are totally inadequate to meet critical growth objectives. In fact, a look at a road map of the Southeast will show that Georgia has the most inadequate four-lane system in the region. The data in Table 7 give another simple comparison, showing the number of communities of over 10,000 population in the southeastern states that are served by divided four-lane highways.

The reason for this inadequate system of four-lane highways is quite simple. State financial support for highways is very low, by some measures the *lowest* in the nation. The motor fuel tax rate is among the nation's lowest, but this is only part of the story. Other states provide large portions of highway financing from motor vehicle registration fees, special truck taxes, minerals severance taxes, and general funds. A recent Federal Highway Administration study found

Table 7
Multi-Lane Highway Access for Communities over 10,000 Population
Southeastern States, 1984

State	Total	On Interstate	On 4-lane	Not On 4-lane	Percent		
					On Interstate	On 4-lane	Not On 4-Lane
Georgia	38	20	6	12	52	16	32
Alabama	38	22	14	2	58	37	5
Florida	88	66	21	1	75	24	1
Kentucky	29	18	11	0	62	38	0
Mississippi	25	15	9	1	60	36	4
North Carolina	40	20	19	1	50	48	2
South Carolina	23	12	9	2	52	39	9
Tennessee	32	18	8	6	56	25	19
Virginia	27	17	10	0	63	37	0

Source: Derived from Gousha North American Road Atlas

that Georgia state highway revenue based on levels of travel (per 1,000 vehicle miles) was the lowest of any state, slightly over half the national average. If Georgia is to have adequate highways to be competitive for economic development in many of the state's lagging areas, it must make transportation improvements.

SUMMARY

This article has shown that although Georgia has made tremendous strides in recent years and has become an economic leader of the Southeast, it faces great challenges for the future. Average incomes are still relatively low when compared to those in the nation as a whole, particularly outside the Atlanta metropolitan region. Raising this level of income and bringing the state's lagging areas into the economic mainstream will require an enlightened economic policy, including significantly expanded investments in education and transportation.

Charles F. Floyd is full professor in the Department of Insurance, Legal Studies and Real Estate at The University.

The Changing Regional Structure of the U.S. Economy

Part 2
Phillip A. Cartwright

Part 1 of this article (see the January-February issue) suggested that the analytical framework provided by the North versus South approach was undesirable in several respects. Up to this point, a considerable amount of data has been analyzed and patterns have begun to emerge. For example, the data have revealed some differences in the overall economic performance of the northern tier and southern tier states, but intra-regional differences have also emerged from the study. In recent years, the economies of states in the Northeast have outperformed those of the East North Central area, and general economic conditions in states of the South Atlantic and West South Central regions have been better than those in states in the East South Central. Tables 9 and 10* lend insight into the underlying causes of the symptoms observed to this point.

The annual average growth rates of nonagricultural employment by region and state are shown in Table 9. All states recorded gains over the period 1972 to 1983, but there are broad divergences in growth between regions, states, and subperiods. In general, the employment growth in the Northeast has surpassed that in the East North Central region. The extent to which the recession of 1981-1982 affected the smokestack industries and depressed the East North Central states is clear. While all East North Central states experienced declines in nonagricultural employment growth over the years 1980 to 1983, only two states in the Northeast, Rhode Island and Pennsylvania, declined on the annual average basis.

Relative to the northern tier states, nonagricultural employment in the South grew significantly faster from 1972 to 1983. In addition, the growth in employment in the South outperformed that in the industrial north during 1980 to 1983. However, the intra-regional differences within the South appear to be at least as severe as they are in the North. More specifically, from 1980 to 1983, the figures show that nonagricultural employment in the South Atlantic and West South Central regions grew by .89 and 1.2 percent, respectively. Employment growth within these regions was mixed, with Florida and Georgia supporting the growth in the South Atlantic and Texas fueling the gain in the West South Central. In contrast, employment growth declined in the East South Central region, surpassed only by East North Central region.

Table 10 shows the number of nonagricultural employees by major industry subgroup as a percentage of total nonagricultural employment. The data indicate that relative to the nation as a whole, the regions, subregions, and states exhibiting the highest rates of growth over the past several years tend to have a lower percentage of nonagricultural employees engaged in manufacturing and a higher percentage of employees in services. It is not surprising that high growth areas tend to have a larger percentage of employees in the construction industry.

Defining services industries in the broadest sense to include trade; finance, insurance, and real estate; transportation and public utilities; and government, it is the case that eight of the nine states in the Northeast have percentages of nonagricultural employment in the combined services industries below that com-

*Tables 1-8 appeared in the first part of this article.

TABLE 9

NONAGRICULTURAL EMPLOYMENT BY REGION AND STATE, 1972-1983
(000s)

Region/State	Total Employees on Nonagricultural Payrolls			Annual Average Rate of Growth		
	1972	1980	1983	1972-1980	1980-1983	1972-1983
Northeast	18,687.0	20,501.7	20,486.4	1.17	-0.02	0.84
Maine	343.7	418.3	420.9	2.49	0.21	1.86
New Hampshire	278.5	385.4	401.8	4.14	1.40	3.39
Vermont	153.6	200.1	205.0	3.36	0.22	2.66
Massachusetts	2,251.7	2,652.2	2,671.2	2.07	0.24	1.57
Rhode Island	358.1	398.3	392.3	1.34	-0.50	0.83
Connecticut	1,190.4	1,426.8	1,442.3	2.29	0.36	1.76
New York	7,038.5	7,207.1	7,285.3	0.30	0.36	0.31
New Jersey	2,672.5	3,060.4	3,148.8	1.71	0.95	1.50
Pennsylvania	4,400.0	4,753.1	4,518.8	0.97	-1.67	0.24
East North Central	14,870.7	16,728.1	15,627.5	1.48	-2.24	.45
Ohio	3,938.3	4,367.4	4,083.8	1.30	-2.21	.33
Indiana	1,921.9	2,129.5	2,007.4	1.29	-1.95	0.40
Illinois	4,314.8	4,850.3	4,501.1	1.47	-2.46	0.39
Michigan	3,114.9	3,442.8	3,186.3	1.26	-2.55	0.21
Wisconsin	1,580.8	1,938.1	1,848.9	2.53	-1.56	1.43
South Atlantic	11,455.0	14,694.6	15,089.8	3.16	0.89	2.54
Delaware	232.4	259.2	266.1	1.37	0.88	1.24
Maryland	1,415.0	1,711.8	1,699.6	2.41	-0.24	1.68
D.C.	572.0	616.1	597.7	0.93	-1.01	0.40
Virginia	1,655.2	2,157.2	2,195.5	3.37	0.59	2.60
West Virginia	540.5	645.9	581.1	2.25	-3.46	0.66
North Carolina	1,911.9	2,380.0	2,402.2	2.78	0.31	2.10
South Carolina	920.3	1,188.8	1,182.4	3.25	-0.18	2.30
Georgia	1,695.2	2,159.4	2,272.2	3.07	1.71	2.70
Florida	2,513.1	3,576.2	3,893.0	4.51	2.87	4.06
East South Central	4,160.9	5,142.6	4,981.3	2.68	-1.06	1.65
Kentucky	989.2	1,210.0	1,154.1	2.55	-1.56	1.41
Tennessee	1,450.1	1,747.2	1,720.0	2.36	-0.52	1.56
Alabama	1,072.3	1,356.1	1,318.4	2.98	-0.94	1.90
Mississippi	649.3	829.3	788.8	3.11	-1.66	1.78
West South Central	6,406.4	9,310.1	9,648.0	4.78	1.20	3.79
Arkansas	581.5	742.3	740.0	3.10	-0.10	2.22
Louisiana	1,128.6	1,578.9	1,564.1	4.29	-0.31	3.01
Oklahoma	811.9	1,137.7	1,169.7	4.31	0.93	3.38
Texas	3,884.4	5,851.2	6,174.2	5.25	1.81	4.30

Source: U.S. Department of Labor, Bureau of Labor Statistics. Employment and Earnings. Selected issues. Washington, D.C.: U.S. Government Printing Office.

TABLE 10

EMPLOYEES IN NONAGRICULTURAL ESTABLISHMENTS BY MAJOR INDUSTRY SUBGROUP AS A PERCENTAGE OF TOTAL NONAGRICULTURAL EMPLOYEES BY REGION AND STATE, 1982[1]

Region/State	Total[2]	Trade	Services	Manufacturing	Government	Finance Insurance, Real Estate	Transportation, Public Utilities	Construction
United States	100.00	22.77	21.26	21.04	17.64	5.96	5.67	4.37
Northeast	100.00	21.12	23.63	23.10	16.11	7.02	5.42	3.44
Maine	100.00	21.41	19.71	26.03	19.95	4.38	4.38	4.14
New Hampshire	100.00	22.39	20.10	28.50	14.25	5.34	3.82	11.45
Vermont	100.00	21.29	23.27	24.26	17.82	3.96	4.46	4.95
Massachusetts	100.00	21.74	26.05	24.29	14.00	6.41	4.54	2.97
Rhode Island	100.00	20.46	23.02	29.92	14.83	5.37	3.32	3.07
Connecticut	100.00	21.25	21.11	29.17	12.62	7.92	4.35	3.51
New York	100.00	20.10	25.10	18.83	17.83	9.28	5.83	2.96
New Jersey	100.00	22.63	21.46	23.60	17.05	5.41	6.35	3.47
Pennsylvania	100.00	21.27	22.91	25.59	14.91	5.24	5.44	3.66
East North Central	100.00	22.77	20.48	25.80	16.44	5.61	5.17	3.27
Ohio	100.00	22.64	20.78	26.67	15.92	4.98	5.03	3.29
Indiana	100.00	22.59	17.61	29.00	16.37	5.07	5.12	3.73
Illinois	100.00	23.50	21.39	22.22	15.81	7.12	5.99	3.40
Michigan	100.00	21.61	20.48	27.41	18.16	4.77	4.45	2.82
Wisconsin	100.00	23.03	20.57	26.57	17.09	5.20	4.66	2.79
South Atlantic	100.00	22.65	21.27	19.66	20.48	5.52	5.63	5.19
Delaware	100.00	22.01	19.31	26.25	16.99	5.02	4.63	5.79
Maryland	100.00	24.31	23.29	12.69	23.53	5.69	5.21	5.21
D.C.	100.00	10.07	32.21	2.35	43.79	5.54	4.36	1.85
Virginia	100.00	21.46	20.09	18.69	23.52	4.98	5.49	4.69
West Virginia	100.00	21.02	16.91	16.29	20.69	3.61	6.90	4.27
North Carolina	100.00	20.40	15.36	33.40	17.07	4.19	4.96	4.45
South Carolina	100.00	19.88	29.09	31.15	19.71	4.30	4.65	5.59
Georgia	100.00	23.61	16.89	22.75	19.75	5.27	6.63	4.68
Florida	100.00	26.58	23.95	12.23	16.67	7.47	6.11	6.75
East South Central	100.00	21.31	17.48	25.30	19.90	4.50	5.24	4.41
Kentucky	100.00	22.34	18.56	21.22	18.99	4.47	5.67	4.30
Tennessee	100.00	21.80	18.60	27.73	17.48	4.74	4.92	4.21
Alabama	100.00	20.38	16.43	25.63	22.13	4.49	5.40	4.33
Mississippi	100.00	20.43	15.38	25.73	22.70	4.16	5.04	5.17
West South Central	100.00	24.08	18.25	16.72	17.32	5.46	6.39	6.44
Arkansas	100.00	21.97	16.41	27.26	19.05	4.45	5.98	4.17
Louisiana	100.00	22.80	18.71	12.76	19.02	4.89	8.05	7.68
Oklahoma	100.00	29.94	17.78	14.94	19.32	5.03	5.76	4.63
Texas	100.00	24.67	18.44	16.90	16.31	5.80	6.15	6.76

[1]Totals may not add to 100.00 due to rounding errors.
[2]Includes mining, not shown separately.

Source: U.S. Department of Labor, Bureau of Labor Statistics (1983). Employment and Earnings. Washington, D.C.: U.S. Government Printing Office.

puted for the nation, and percentages of employment in manufacturing industries above the national figure. New York is the exception, having percentages of employment in the combined services and manufacturing industries above and below the national percentages, respectively. In the Northeast, the only states having a percentage of nonagricultural employment in construction exceeding that of the nation are New Hampshire and Vermont.

Consideration of the distribution of nonagricultural employment in the East North Central region shows four of five states have percentages of employment in the broadly defined services industries below the number for the U.S., and all states have above average employment shares in manufacturing. The only state having an employment share in the services industries greater than the national share is Illinois. All states in the East North Central region have employment shares in construction below the national percentage.

In the southern tier states, three states (Maryland, Virginia, Florida) and the District of Columbia in the South Atlantic region, and three of the four states (Louisiana, Oklahoma, Texas) in the West South Central region have high employment shares in the services industries relative to the nation. In the South Atlantic region, the percentage shares for manufacturing in Maryland, the District of Columbia, Virginia, West Virginia, and Florida are below the national figure as are those for Louisiana, Oklahoma, and Texas in the West South Central. In the South Atlantic area only the District of Columbia and West Virginia have employment shares in construction below that of the national economy and Arkansas is the only state having a relatively low percentage in the West South Central region.

The East South Central states are characterized by employment shares below the national percentage in services. Further, all states in the region have relatively high employment shares in manufacturing and only Mississippi shows a percentage figure in construction exceeding the national share.

This somewhat cursory analysis of employment shares indicates the extent of the intra-regional differences in economic structure between regions and states. On the surface, it appears that for purposes of economic analysis, comparison of the East North Central and East South Central regions with the Northeast, South Atlantic and West South Central regions is more meaningful than an analysis based upon a sorting of states into northern and southern tiers. However, the alternative aggregation of regions no doubt would prove unsatisfactory upon analysis of data for subindustry groupings and data over time. Though such a study will not be pursued here, this discussion does provide sufficient evidence for motivating analyses and reports of structural adjustments couched in terms of the growth and distribution of employment, or of industrial structure, rather than in terms of arbitrary geographic divisions.

Table 11 provides data on average hourly earnings of manufacturing production workers in selected states relative to the U.S. average for the years 1972 and 1982. On average, the highest wages are found in the East North Central states and the lowest in the South Atlantic and East South Central states. In addition, low wages are also found in the New England states of Connecticut, Massachusetts, New Hampshire, and Rhode Island. It is particularly interesting that manufacturing wages in the northeastern states have declined relative to the national average, and except for Illinois, those in the East North Central states have risen. Generally, wages in southern tier states have increased relative to the national average between 1972 to 1982. Notice, however, that while increases occurred in virtually every southern state, relative to the national average, the fastest growing states in the South Atlantic, Georgia and Florida, posted declines. Of course, the strength of the growth in those states has been predominantly supported by expansion in the services, and to a lesser extent, high technology rather than conventional heavy manufacturing industries.

FEDERAL TAX BURDEN

As discussion of an economic battle between the northern and southern states has gained momentum, the number of related claims concerning the distribution of the federal tax burden and the distribution of the tax burden for federal funds has become a topic for debate. Throughout this article, emphasis has been placed on some of the problems associated with the use of arbitrary geographical aggregations for understanding structural economic change. Consideration of the data on federal tax burdens and federal tax burdens for grants helps reinforce previous observations.

Data on the estimated total and per capital federal tax burdens by state are presented in Table 12. The highest dollar amounts tend to be in states with large populations. On average, the total tax burden is higher in the northern tier states. The burden varies between regions, but the disparities between states within regions are quite pronounced. In terms of 1984 rank, the total tax burden in the Northeast ranges from 2 in New York down to 42 in Maine, and in the East North Central area where the overall total tax burden is highest on a regional basis, the rankings extend from 4 in Illinois to 18 in Wisconsin.

In the South, the ranges between states within subregions are significantly different. In the South Atlantic region, the range extends from 11 in Virginia to 47 in Delaware. The range in the East South Central states is smallest, extending from 22 to 32 in Tennessee and

TABLE 11

AVERAGE HOURLY EARNINGS OF MANUFACTURING PRODUCTION WORKERS IN SELECTED STATES RELATIVE TO U.S. AVERAGE
(Percent)

State	1972	1982
New Hampshire	82.9	81.8
Massachusetts	95.1	89.2
Rhode Island	82.4	77.8
Connecticut	101.2	96.8
New York	102.7	98.2
New Jersey	104.2	102.3
Pennsylvania	101.7	101.5
Ohio	116.4	118.5
Indiana	113.7	115.2
Illinois	111.7	109.5
Michigan	na	131.5
Maryland	103.2	103.3
Virginia	81.7	86.6
North Carolina	73.1	74.7
South Carolina	74.1	78.6
Georgia	79.5	79.4
Florida	84.4	82.6
Kentucky	97.8	98.6
Tennessee	80.4	84.2
Alabama	83.6	86.2
Mississippi	72.1	75.4
Arkansas	73.1	78.7
Texas	na	101.2

Source: Browne, L.E. (1984). "How Different are Regional Wages? A Second Look." In New England Economic Review. Boston: Federal Reserve Bank of Boston, p. 42.

Mississippi, respectively. In the West South Central region, the highest total tax burden is 3 in Texas, and the lowest is 33 in Arkansas.

Examination of the per capita tax burden reveals that the highest per capita burdens tend to be in states with high personal incomes. Overall, the per capita tax burden in the northern tier states is higher than that for states in the South, but the intra-regional differences are significant. In per capita terms, on average the tax burden is higher in the Northeast than in the East North Central states and higher in the South Atlantic region than in the East and West South Central states.

The five largest grants-in-aid programs are Medicaid, interstate highway construction grants, Aid to Families with Dependent Children, subsidized housing, and general revenue sharing. Table 13 indicates that in fiscal year 1983, the costs of supporting grants programs fell on eleven states, while nineteen states and the District of Columbia were recipients in the sense that less than one dollar was paid for every dollar received. In the northern tier, the tax burden per dollar paid was less than a dollar in eight states and greater in six states. Of the six so-called paying states, three each were in the Northeast and East North Central regions. Two of the receiving states were in the East North Central and six were in the Northeast.

Across the southern tier, the tax burden per dollar paid is less than one dollar in eleven states and the District of Columbia and greater than one dollar in five states. Three of the paying states are in the South Atlantic region. Of those states, Florida has the highest burden of $1.38 and the state ranks third overall. In the West South Central region, Oklahoma and Texas are both paying states, while Arkansas and Louisiana are recipients. Texas ranks first in the nation and Oklahoma ranks twelfth. All of the states in the East South Central region were recipients.

While the data show the tax burden tends to be higher in northern states, it is also the case that be-

TABLE 12

ESTIMATED TOTAL AND PER CAPITA FEDERAL TAX BURDENS BY STATE, FISCAL YEARS 1983-1985

State	Total Burden (Millions of Dollars) 1983	1984	1985	Per Capita Burden (Dollars) 1983	1984	1985	State Rank 1984 Total	Per Capita
Northeast								
Maine	2,167	2,435	2,718	1,910	2,142	2,386	42	43
New Hampshire	2,380	2,642	2,954	2,477	2,716	2,996	40	22
Vermont	1,056	1,191	1,330	2,039	2,294	2,552	51	37
Massachusetts	15,931	17,764	19,836	2,750	3,061	3,409	10	9
Rhode Island	2,308	2,591	2,891	2,402	2,685	2,983	41	25
Connecticut	10,754	11,890	13,287	3,396	3,738	4,153	19	2
New York	48,355	54,043	60,367	2,734	3,053	3,405	2	10
New Jersey	23,602	26,229	29,305	3,164	3,508	3,906	8	4
Pennsylvania	29,305	32,761	36,584	2,471	2,768	3,093	5	18
East North Central								
Ohio	26,012	29,005	32,406	2,412	2,695	3,014	6	24
Indiana	12,544	14,000	15,639	2,296	2,572	2,880	12	29
Illinois	32,758	36,511	40,765	2,860	3,190	3,560	4	5
Michigan	21,850	24,372	27,217	2,412	2,715	3,057	9	23
Wisconsin	11,085	12,405	13,853	2,317	2,583	2,870	18	28
South Atlantic								
Delaware	1,692	1,880	2,099	2,801	3,103	3,447	47	8
Maryland	12,093	13,384	14,965	2,825	3,117	3,470	13	7
D.C.	2,070	2,303	2,571	3,290	3,690	4,141	43	3
Virginia	13,939	15,483	17,306	2,516	2,768	3,060	11	17
West Virginia	3,790	4,245	4,734	1,947	2,186	2,440	34	41
North Carolina	11,636	13,031	14,561	1,919	2,130	2,356	15	45
South Carolina	5,806	6,502	7,264	1,797	1,993	2,202	31	49
Georgia	11,658	13,021	14,556	2,046	2,258	2,491	16	38
Florida	25,429	28,468	31,803	2,388	2,600	2,821	7	27
East South Central								
Kentucky	6,962	7,823	8,730	1,898	2,135	2,383	26	44
Tennessee	9,188	10,295	11,498	1,967	2,196	2,441	22	40
Alabama	7,204	8,085	9,031	1,819	2,033	2,259	25	48
Mississippi	4,172	4,693	5,239	1,630	1,827	2,031	32	51
West South Central								
Arkansas	3,929	4,447	4,965	1,714	1,940	2,166	33	50
Louisiana	10,348	11,504	12,853	2,344	2,569	2,825	20	30
Oklahoma	8,154	9,102	10,179	2,525	2,764	3,027	24	19
Texas	42,581	47,136	52,709	2,722	2,925	3,171	3	14

Source: Tax Foundation, Incorporated (1984). Tax Features 28, No. 4. Washington, D.C.: Tax Foundation, Incorporated, p. 2.

TABLE 13

FEDERAL GRANTS-IN-AID TO STATE AND LOCAL GOVERNMENTS AND ESTIMATED FEDERAL TAX BURDEN FOR FEDERAL GRANTS, FISCAL YEAR 1983

State	Grants (Millions of Dollars)	Percent of Total Tax Burden	Tax Burden Per Dollar of Aid	
			Amount	Rank
Northeast				
Maine	574.9	.37	.58	48
New Hampshire	351.1	.41	1.04	16
Vermont	312.0	.18	.52	50
Massachusetts	2,897.5	2.74	.84	32
Rhode Island	486.2	.40	.73	40
Connecticut	1,190.4	1.85	1.38	2
New York	10,006.7	8.33	.74	39
New Jersey	2,811.5	4.07	1.28	5
Pennsylvania	4,815.6	5.05	.93	24
East North Central				
Ohio	3,641.3	4.48	1.09	15
Indiana	1,610.4	2.16	1.19	9
Illinois	4,190.2	5.64	1.20	8
Michigan	3,611.8	3.76	.92	25
Wisconsin	1,902.7	1.91	.89	26
South Atlantic				
Delaware	306.8	.29	.84	31
Maryland	1,811.1	2.08	1.02	19
D.C.	1,317.1	.36	.24	51
Virginia	1,681.8	2.40	1.27	7
West Virginia	839.4	.65	.69	42
North Carolina	1,875.0	2.00	.95	22
South Carolina	1,109.3	1.00	.80	34
Georgia	2,106.6	2.01	.85	30
Florida	2,815.6	4.38	1.38	3
East South Central				
Kentucky	1,487.8	1.20	.72	41
Tennessee	1,581.5	1.58	.89	27
Alabama	1,433.7	1.24	.77	38
Mississippi	1,074.7	.72	.59	46
West South Central				
Arkansas	896.8	.68	.67	44
Louisiana	1,695.5	1.78	.93	23
Oklahoma	1,071.2	1.40	1.16	12
Texas	3,801.5	7.33	1.71	1

Source: Tax Foundation, Incorporated (1984). Tax Features 28, No. 5. Washington, D.C.: Tax Foundation, Incorporated, p. 2.

cause of intra-regional differences, the significance of generalizations relating to the redistribution of wealth implying some regions are the providers and others receivers are of dubious value. Further, the fact that the tax structure serves to redistribute income from higher to lower income areas is entirely consistent with stated national objectives. That is, characteristic of a progressive tax structure, the evidence indicates a positive correspondence between tax burden and per capita income.

CONCLUSIONS

In summary, this two-part article has analyzed a considerable amount of demographic and economic data as part of an effort to support the contention that because of significant intra-regional differences, analyses attempting to offer insight into regional and structural changes in the U.S. economy on the basis of observations on growth in arbitrary geographical divisions such as North and South are of limited value. We have shown that the changes in the relative population growth rates of the northern and southern tier states are significant. However, the population, mobility, and migration figures indicate that a mass exodus from the North to the South is not currently under way. Evidence given indicates there are significant divergences between the figures presented for states within regions.

Intra-regional differences were isolated not only for demographic data series, but for all data series analyzed as well. Using data on personal income, employment, earnings, costs of living, and tax burdens, the evidence suggests that attempts to explain adjustments in the U.S. economy based upon fundamental economic factors such as the composition of the employment or industrial base are likely to be far more informative for purposes of formulating economic policy than analyses founded on arbitrary geographic divisions.

TAXABLE SALES IN GEORGIA, BY INDUSTRY AND COUNTY
($000)

INDUSTRY	TOTAL 1983	TOTAL 1984	ANNUAL PERCENT CHANGE 1983-1984
Food	1012365	1129612	10.9
Apparel	1132751	1254519	10.8
General Merchandise	618537	711139	15.3
Automotive	842043	934487	11.0
Furniture	234696	247614	5.5
Miscellaneous	240699	291810	20.8
COUNTY			
Appling	56791	59210	4.3
Atkinson	24171	24922	3.1
Bacon	46859	46614	-0.5
Baker	9180	9869	7.5
Baldwin	208158	246536	18.4
Banks	31923	38206	19.7
Barrow	134141	159014	18.5
Bartow	315591	349110	10.6
Ben Hill	115535	119478	3.4
Berrien	71440	87160	22.0
Bibb	1241812	1465021	18.0
Bleckley	36879	40717	10.4
Brantley	28813	32743	13.6
Brooks	74433	77866	4.6
Bryan	28462	30011	5.4
Bulloch	240323	267388	11.3
Burke	90218	97338	7.9
Butts	102616	113568	10.7
Calhoun	26771	23043	-13.9
Camden	84908	97328	14.6
Candler	31392	31604	0.7
Carroll	329011	380845	15.8
Catoosa	220823	266721	20.8
Charlton	19609	20013	2.1
Chatham	1758863	2099448	19.4
Chattahoochee	19607	18151	-7.4
Chattooga	140895	147540	4.7
Cherokee	230033	304311	32.3
Clarke	693136	768362	10.9
Clay	8338	8702	4.4
Clayton	1186613	1460855	23.1
Clinch	16811	17896	6.5
Cobb	2217855	2482787	11.9
Coffee	188936	213754	13.1
Colquitt	232764	283022	21.6
Columbia	141695	176758	24.7
Cook	70881	74..	4..
Coweta	282201	3....	9..
Crawford	16279	17...	7..
Crisp	180115	207...	15..
Dade	31..	3...	12..
Dawson	19...	24...	26..
Decatur	1816..	21...	16..
DeKalb	3147...	3...	7..
Dodge	72...	7...	9..
Dooly	39..	4...	16..
Dougherty	981..	1128...	15..
Douglas	276...	3...	14..
Early	135..	15...	12..
Echols	1..	1...	-1..
Effingham	78..	84...	7..
Elbert	1....	13...	9..
Emanuel	1....	2...	9..
Evans	7...	8...	12..
Fannin	80..	9...	13..
Fayette	3...	4...	26..
Floyd	10...	6...	12..
Forsyth	21..	2...	18..
Franklin	13..	1...	23..
Fulton	7...	8...	13..
Gilmer	1..	1...	27..
Glascock	3...	3...	11..
Glynn	6...	6...	8..
Gordon	1...	2...	14..
Grady	1...	1...	12..
Greene	8...	8...	7..
Gwinnett	1...	2...	19..
Habersham	1...	1...	14..
Hall	3...	4...	17..
Hancock	2...	2...	9..
Haralson	1...	1...	13..
Harris	2...	2...	14..
Hart	1...	1...	18..
Heard	1...	1...	12..
Henry	2...	2...	17..
Houston	4...	5...	17..
Irwin	1...	1...	14..
Jackson	2...	2...	18..
Jasper	1...	1...	19..
Jeff Davis	2...	2...	14..

INDUSTRY	TOTAL 1983	TOTAL 1984	ANNUAL PERCENT CHANGE 1983-1984
Total Retail	5...	6...	14..
Lumber, Bldg.	2...	3...	20..
Services	1...	1...	12..
Manufacturing	2...	3...	20..
Utilities	4...	4...	6..
COUNTY			
Jackson	1...	1...	18..
Jasper	1...	1...	12..
Jeff Davis	2...	2...	14..
Jefferson	1...	1...	12..
Jenkins	1...	1...	9..
Johnson	1...	1...	14..
Jones	2...	2...	14..
Lamar	1...	1...	12..
Lanier	1...	1...	14..
Laurens	3...	3...	13..
Lee	2...	2...	14..
Liberty	1...	1...	12..
Lincoln	1...	1...	9..
Long	1...	1...	14..
Lowndes	4...	5...	14..
Lumpkin	1...	1...	12..
McDuffie	1...	1...	12..
McIntosh	1...	1...	14..
Macon	1...	1...	14..
Madison	1...	1...	14..
Marion	1...	1...	14..
Meriwether	1...	1...	14..
Miller	1...	1...	14..
Mitchell	1...	1...	14..
Monroe	2...	2...	14..
Montgomery	1...	1...	14..
Morgan	1...	1...	14..
Murray	2...	2...	14..
Muscogee	5...	6...	14..
Newton	2...	2...	14..
Oconee	1...	1...	14..
Oglethorpe	1...	1...	14..
Paulding	2...	2...	14..
Peach	2...	2...	14..
Pickens	1...	1...	14..
Pierce	1...	1...	14..
Pike	1...	1...	14..
Polk	2...	2...	14..
Pulaski	1...	1...	14..
Putnam	1...	1...	14..
Quitman	1...	1...	14..
Rabun	1...	1...	14..
Randolph	1...	1...	14..
Richmond	3...	3...	14..
Rockdale	2...	2...	14..
Schley	1...	1...	14..
Screven	1...	1...	14..
Seminole	1...	1...	14..
Spalding	3...	3...	14..
Stephens	2...	2...	14..
Stewart	1...	1...	14..
Sumter	3...	3...	14..
Talbot	1...	1...	14..
Taliaferro	1...	1...	14..
Tattnall	2...	2...	14..
Taylor	1...	1...	14..
Telfair	1...	1...	14..
Terrell	1...	1...	14..
Thomas	3...	3...	14..
Tift	2...	2...	14..
Toombs	2...	2...	14..
Towns	1...	1...	14..
Treutlen	1...	1...	14..
Troup	3...	3...	14..
Turner	1...	1...	14..
Twiggs	1...	1...	14..
Union	1...	1...	14..
Upson	2...	2...	14..
Walker	3...	3...	14..
Walton	2...	2...	14..
Ware	3...	3...	14..
Warren	1...	1...	14..
Washington	2...	2...	14..
Wayne	2...	2...	14..
Webster	1...	1...	14..
Wheeler	1...	1...	14..
White	1...	1...	14..
Whitfield	4...	5...	14..
Wilcox	1...	1...	14..
Wilkes	1...	1...	14..
Wilkinson	1...	1...	14..
Worth	2...	2...	14..
Total	2...	2...	14..

Source: Derived by the Division of Research, College of Business Administration, University of Georgia, from data of Sales and Use Tax Division, Georgia Department of Revenue. Sales include the value of all taxable items, as reported by firms making or acquiring them, plus penalties and interest collected.

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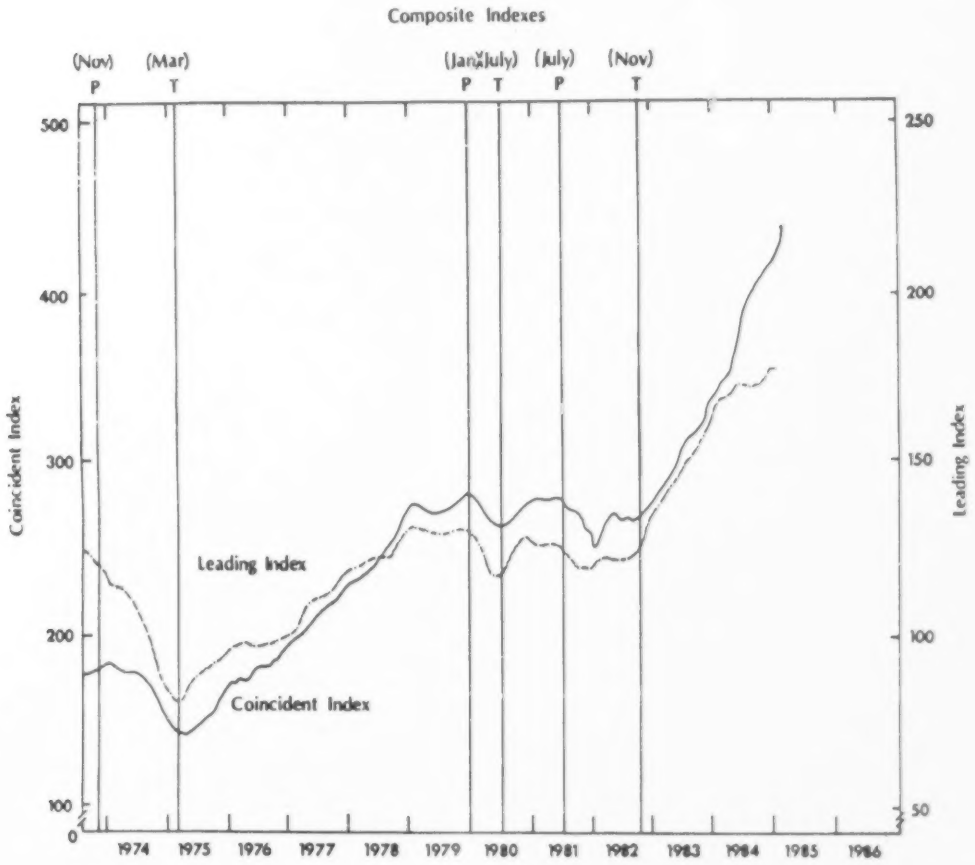
Composite Indexes of Leading and Coincident Georgia Economic Indicators

Both the coincident and leading indicators of economic activity moved upward in December. The year-end increase in the coincident indicator amounted to 3.1 percent, largely fueled by a 2.3 percent gain in seasonally adjusted real weekly earnings in manufacturing. Nonagricultural employment also contributed to the growth, but with a modest increase of .5 percent in total jobs. Meanwhile, real retail sales slowed a slight decline of .3 percent, although December sales were still 6.1 percent higher than December 1983 figures.

The leading indicator posted a .6 percent increase. Seasonally adjusted initial unemployment claims were down 19.4 percent, though the improvement was counterbalanced by a substantial drop of 20.9 percent in housing permits. Atlanta's Help Wanted Advertising Index registered a slight decline of .6 percent for the month.

In January 1985 the pattern changed with the leading indicator declining slightly and the coincident indicator up 2.9 percent over December. All three components of the coincident indicator contributed to its rise, with the largest increase in retail sales (1.1 percent). Seasonally adjusted nonagricultural employment registered a .8 percent increase, while real weekly earnings in manufacturing increased .6 percent.

The leading indicator took a slight downturn of .1 percent in January, caused by a rise in seasonally adjusted initial unemployment claims and a decline in Atlanta's Help Wanted Advertising Index. Claims rose by 19.2 percent while the help wanted index was down 3.9 percent. Growth in housing permits offset these changes somewhat as permits rose 26.1 percent for the month.



GEORGIA BUSINESS STATISTICS

	JAN 1985	DEC 1984	NOV 1984	JAN 1984
Georgia Leading Indicators Index[1] (1969=100)	168.80	169.02	168.26	163.39
Georgia Coincident Indicators Index[1] (1969=100)	441.60	429.25	420.18	350.58
Nonagricultural Employment[2] (thousands)	2537.9	2564.9[r]	2548.0[r]	2346.1
Manufacturing Employment[2] (thousands)	548.6	553.1[r]	552.5[r]	527.4
Average Weekly Earnings, Manufacturing[2] (dollars)	321.12	329.38[r]	317.42[r]	298.89
Help Wanted Advertising, Atlanta Index[3] (1967=100)	295	307	309	270
Taxable Retail Sales[4] ($ millions)	2616.4	3649.4	2995.2	2324.0
Building Permits[5]				
Residential Housing Units, Private (thousands)	4.8	4.0	4.8	4.9
Value of Residential Housing ($ thousands)	192037	159188	198858	185510
Value of Nonresidential Construction ($ thousands)	117469	97166	197197	105190
Industrial Buildings	18760	13601	22496	18212
Office, Bank and Other Professional Buildings	24367	22034	56236	30984
Stores and Other Merchantile Buildings	16673	13338	48953	10791
Other	57669	48193	69512	45023
Consumer Price Index[6] (CPI-U, all items)				
South U.S. (December, 1977 = 100)	-	170.8	-	164.3[a]
South/Population more than 1,250,000	-	170.3	-	163.5[a]
South/Population 385,000 to 1,250,000	-	172.0	-	164.9[a]
South/Population 75,000 to 385,000	-	170.2	-	163.7[a]
South/Population 2,500 to 75,000	-	170.4	-	165.7[a]
Atlanta (1967=100)	-	318.2	-	307.3[a]
Prices Received by Farmers, Georgia Index[7] (1977=100)	123[r]	121	122[r]	146
	1984:III	1984:II	1984:I	1983:IV
Total Personal Income[8] ($ millions)	67653	65867	63582	61863

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[1]Georgia Economic Forecasting Project, Division of Research, College of Business Administration, University of Georgia. Initial monthly values subject to revision.

[2]Labor Information Systems, Georgia Department of Labor

[3]Series published by The Conference Board, Inc.

[4]Derived by the Division of Research, College of Business Administration, University of Georgia, from data of the Sales and Use Tax System, Georgia Department of Revenue

[5]U.S. Department of Commerce, Bureau of the Census. Data for same month, previous year are not comparable due to shift to 17000 place universe in January, 1985.

[6]U.S. Department of Labor, Bureau of Labor Statistics, Southeastern Regional Office

[7]Georgia Department of Agriculture, Georgia Crop Reporting Service

[8]U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System

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Trends in Georgia's Textile and Apparel Industries

Joe D. Tanner

Increased foreign competition in the textiles and apparel industries has forced the closing of many American textile plants, including twenty-eight mills in Georgia. In this report prepared for the Trade Subcommittee of the Congressional House Ways and Means Committee, State Labor Commissioner Joe D. Tanner examines the trends in these industries, which employ 200,000 Georgians and have annual payrolls of over $2 billion.

From the beginning of Georgia's industrial development, textiles dominated manufacturing employment. During colonial times, silk was grown and processed along the Georgia coast. Cotton was first grown in the state in 1798. In 1811, the first commercially successful cotton mill in the South was built in Wilkes County. By 1825, Georgia led the world in the production of cotton fiber.

By 1850, there were 35 cotton mills and three woolen mills in the state. Because they were water-powered, they were located primarily along the Fall Line where the increased stream gradient provided excellent mill sites. The Fall Line cities of Augusta, Macon, and Columbus became and remain major textile production centers. By 1900, more than a million textile spindles were in place throughout the state. They consumed more than 300,000 bales of cotton annually.

The next 50 years were marked by a series of events which forever changed the state's economy: two world wars, the Depression, and a boll weevil infestation that devastated Georgia's cotton, the state's largest cash crop. Farming, which had been relatively profitable, now provided only a subsistence level of existence for many agricultural workers. They were, therefore, attracted to higher paying manufacturing jobs in urban areas, both in Georgia and elsewhere, and began the exodus from the farm that changed Georgia from a rural state with an agrarian economy to an industrialized one with diverse businesses.

Meanwhile, the textile industry continued its southward movement for a number of reasons, not the least of which were the area's large labor pool and cheaper wage rates. As a result, textile employment increased from 31,400 in 1910 to 85,400 in 1940.

EMPLOYMENT LEVELS

After World War II, the apparel industry took its place with textiles as one of Georgia's most important sources of jobs. Total manufacturing employment increased by 79.2 percent from 1947 to 1973, the year in which both textile and apparel employment peaked. During the same period, textile employment grew only 15.3 percent while employment in the apparel industry increased 181.5 percent.

Major declines in these industries in 1975 and 1982 coincided with national recessions. The apparel industry has recovered to within a few hundred of the 1973 peak, but the textile industry has not rebounded as it did following other recessions. Although total manufacturing employment grew 10.3 percent from 1973 to 1984 and apparel employment is off by less than half of one percent, employment in textile mills is down by 15.5 percent. Employment in both textiles and apparel is projected to continue to decline through 1990.

It is worth noting that, although employment in both textiles and apparel has declined in terms of actual numbers, Georgia's share of employment in both industries relative to the U.S. total has in-

Employment in Textile and Apparel Industries, Southeastern States and U.S. (1984 annual averages)

	Number Employed		Percent of S.E.		Percent of U.S.	
	Textiles	Apparel	Textiles	Apparel	Textiles	Apparel
Alabama	39,000	55,000	7.6	12.5	5.2	4.6
Florida	2,600	33,700	.5	7.7	0.3	2.8
Georgia	105,700	74,600	20.4	17.0	14.0	6.2
Kentucky	5,800	26,500	1.1	6.0	0.8	2.2
Mississippi	5,900	38,500	1.1	8.8	0.8	3.2
North Carolina	220,200	92,300	42.5	21.0	29.3	7.7
South Carolina	113,000	49,700	21.8	11.3	15.0	4.1
Tennessee	25,600	68,900	5.0	15.7	3.4	5.7
Southeast	518,100	439,200	100.0	100.0	68.8	36.5
U.S.	752,800	1,201,500				

creased. In 1973, 12.4 percent of all textile employment was located in Georgia; by 1984, the percentage had risen to 14.2. During the same period, the state's share of apparel employment rose from 5.2 to 6.3 percent. More than 58 percent of the nation's textile employment is located in three southern states: Georgia, North Carolina, and South Carolina.

Although the combined textile and apparel industries account for almost a third of all manufacturing jobs in the state they account for little more than 7 percent of total nonagricultural wage and salary employment in Georgia. These figures do not, however, convey the importance of these industries to local economies. In one-third of Georgia's 159 counties, these two industries provided more than 20 percent of the jobs. All but seven of these counties are in rural areas with limited job opportunities. In twelve counties, between 30 and 39 percent of jobs were in textiles and apparel; in eleven counties, 40 to 49 percent; and more than half the jobs in Banks and Murray counties were dependent on these two industries.

A look at unemployment rates in counties dominated by textiles reveals that they were consistently higher in 1984 than the rate for the state as a whole. This trend is continuing in the early months of 1985. The same is not true in the three counties having the heaviest concentrations of apparel jobs. Only Haralson County has had unemployment rates consistently higher than the state average; Fulton and Carroll county rates have generally been lower.

The majority of textile employment is concentrated in the northern half of the state, coinciding with the historical development of this industry. The heaviest concentration is in northwest Georgia, which is home to dozens of carpet mills (Figure 1). Almost 60 percent of the nation's total employment in that industry is located here. Apparel plants, which tend to be both smaller and newer than textile mills, are more widely distributed. They are located in 133 of the 159 counties (Figure 2).

EMPLOYMENT DECLINES

In Georgia's textile and apparel industries, cotton weaving mills have suffered the most serious declines in recent years. Between 1973 and 1984, more than 11,000 jobs, or 35 percent of the 1973 labor force in that industry, were lost. Most of the decline has occurred since 1980. Most of these facilities are about one hundred years old; they are labor intensive, averaging more than 400 workers per plant. The fact that the average size of the labor force in these facilities dropped only slightly from 1973 to 1984 seems to indicate that little modernization of equipment has occurred. Plant modernization would not, however, solve the employment problems in this industry because modern equipment is largely computerized and requires fewer operators.

It was postulated that much of the decline in cotton

Unemployment Rates in Counties With Concentrated Textile and Apparel Employment

	1984 Average	January 1985	February 1985
Georgia	6.0	6.0	6.1
Textiles			
Bartow	8.5	9.1	9.3
Chattooga	9.6	12.4	13.3
Floyd	7.5	7.6	9.5
Gordon	7.3	8.4	8.7
Murray	7.4	8.8	9.0
Muscogee	6.4	6.0	6.8
Spalding	8.0	6.9	7.7
Troup	6.6	6.6	7.3
Upson	8.4	8.9	8.3
Walker	6.9	7.6	6.8
Whitfield	6.8	7.9	7.6
Apparel			
Haralson	7.2	7.8	8.9
Carroll	5.6	6.2	5.6
Fulton	6.0	5.5	5.8

Figure 1. Textile Mills Employment, 1984

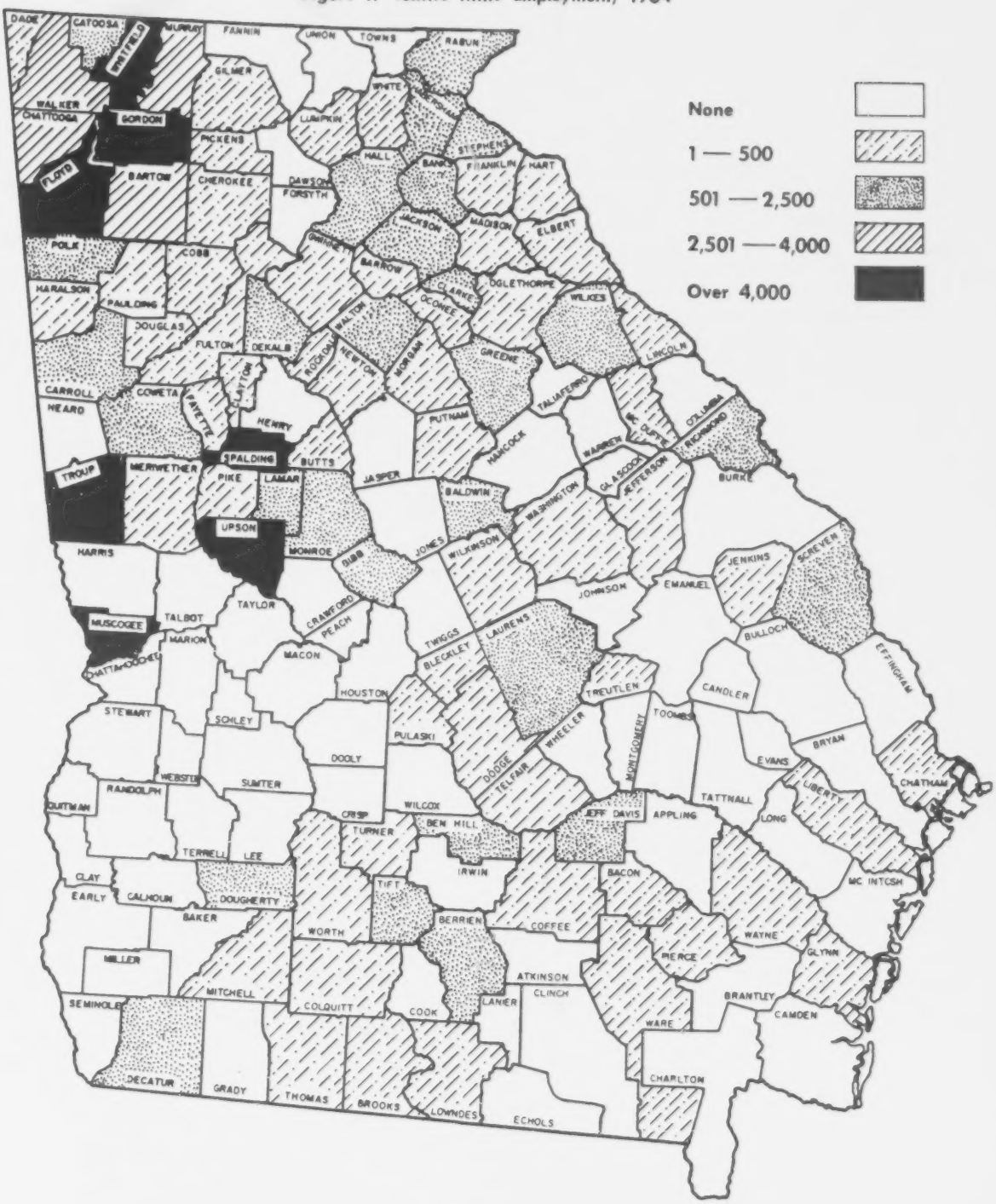

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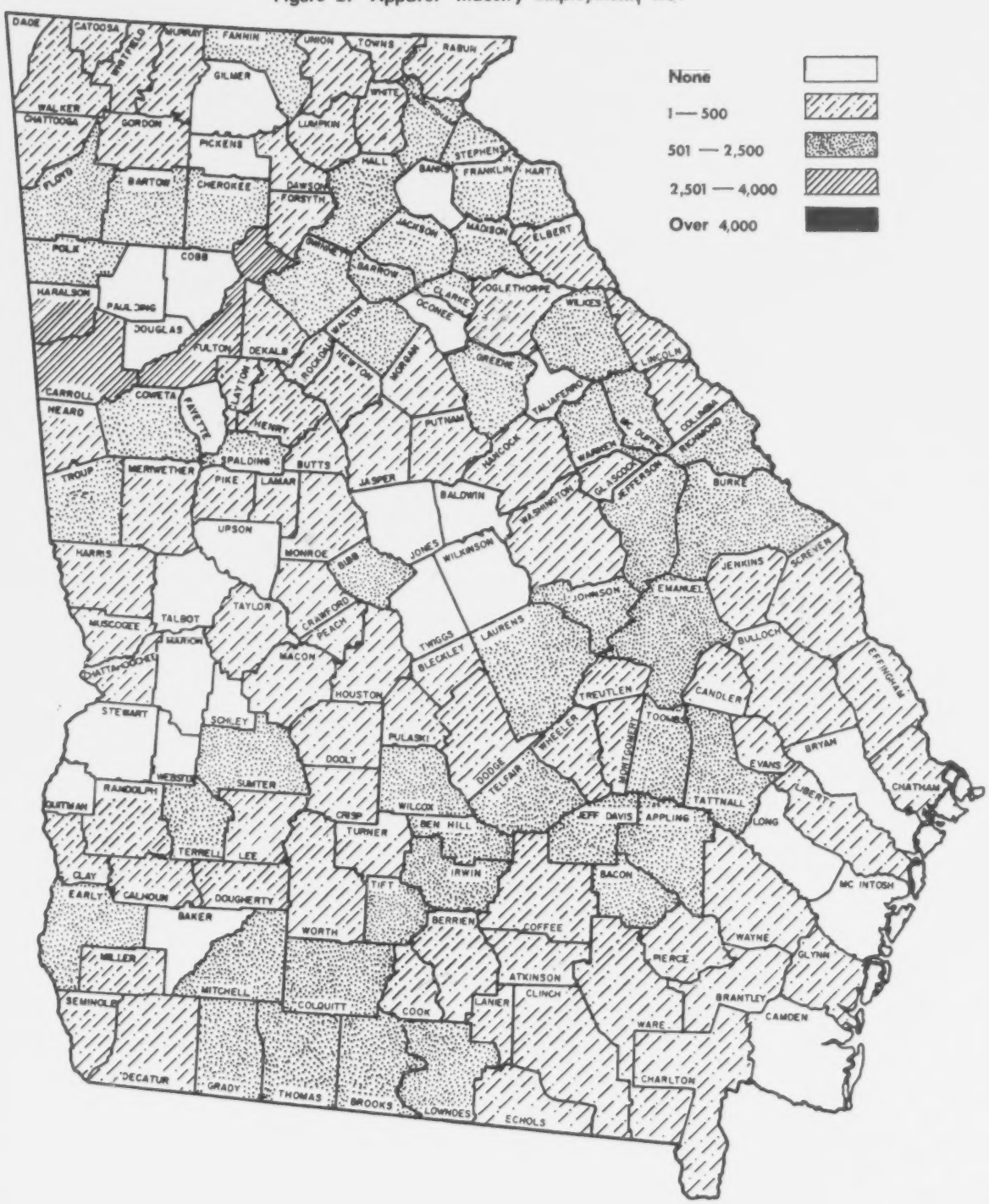
Figure 2. Apparel Industry Employment, 1984



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weaving mills could be attributed to the increasing use of synthetic fibers, but available information does not support this conclusion. Although the rate of decline is much less than in cotton mills, employment in synthetic fiber mills has also decreased.

By contrast, the carpet industry—the state's largest textile industry in terms of total employment—appears to be relatively healthy. Although employment declined about 9 percent from 1973 to 1984, most of the drop occurred before 1980. Employment fell sharply during the 1982-1983 recession because of declines in construction and automobile manufacturing, the two largest users of carpeting, but rebounded strongly during 1984.

The carpet industry is much less labor intensive than some of the other textile industries, perhaps because about 80 percent of mills are less than twenty years old, and therefore, modernly equipped. Carpet mills average slightly more than 100 workers per establishment. During the period 1973 to 1984, the number of carpet mills in the state actually increased modestly—from 285 to 295. More than 95 percent of workers in this industry are engaged in making tufted carpets and rugs.

GENERAL TRENDS

Although the apparel industry has had some difficult periods, generally coinciding with recessionary years, strong growth during 1984 brought employment to within 300 of the 1973 level. The gain was most notable in women's outerwear where employment rose by 1,800 or 18.3 percent for the eleven-year period. It may be surmised that this gain reflects women's increasing presence in the labor force and their corresponding need for suitable wardrobes.

Employment and unemployment levels vary a great deal from month to month in both textiles and apparel. Part of the variance is seasonal and may be tied to normal business cycles. These two industries, however, had more than their pro rata share of unemployment insurance claimants who reported no earnings during their periods of joblessness. Although textiles and apparel averaged 7.6 percent of Georgia's total labor force during the first three quarters of 1984, continuing claims for the two industries were never that low. From January through May 1984, continuing claims for textiles and apparel combined ranged from 15 percent to 16.3 percent. During the last four months of 1984 and in January 1985, the percentage was consistently more than 20 percent of the statewide total for all industries.

A comparison of January 1984 and January 1985 claimant figures shows a sharp upward trend for both industries. For apparel, the rate of increase was 27.5 percent; for textiles, it was 50.3 percent. By contrast, statewide claims for all industries rose only .6 percent during the same period.

Both textiles and apparel are traditionally low-paying industries, and the vast majority of all jobs are semi-skilled. Four out of five employees are either production or maintenance workers. In the apparel industry, almost 57 percent of the workers are sewing machine operators. In textiles, the specific occupational mix is considerably more varied, but in both industries, most workers require three to six months of on-the-job training or experience to reach average performance levels. Many of the jobs require only thirty days to three months for training, while others need fewer than thirty days.

Georgia's economy is healthy. The unemployment rate has remained well below the national average for several years. The state is home to a diverse mix of industries that complement and strengthen each other. A slowdown in one industry may be painful, but it is not cataclysmic. Yet the same cannot be said for all areas of the state. The closing or curtailment of a major employer has devastated the economies of many small Georgia communities. Together, the textile and apparel industries provide jobs for almost 200,000 Georgians, and have an annual payroll that exceeds $2.4 billion. The welfare of these industries is vital to us all.

Broad Economic Mix for Southeast

Linda Lovely

The Southeast has been described as a geographic region encompassing from five states to more than a dozen and ranging from Louisiana to Maryland. It has been perceived as a fiscal haven for companies moving from areas where high operating costs are inherent and as an ideal new home for companies on the leading edge of technology. It has been dubbed the eastern Sunbelt for reasons that clearly transcend climatic considerations.

The Southeast is all of these and it is changing rapidly. From an area once represented in national magazines by dilapidated tenant farm houses, by the desolation of Appalachia and by the oppression of the "company store" syndrome, it now is pictured as a region whose vitality embraces tourism, transportation, energy resources, international trade, high technology and numerous other factors which are synonymous with progress.

Generalizations have given the impression that the region is a fast-growing monolithic unit, according to Donald L. Koch, former director of research for the Federal Reserve Bank in Atlanta. The Southeast, says Koch, now with an Atlanta securities firm, contains states with widely differing economic profiles . . . a fascinating mix of rural and urban, agricultural and manufacturing, and traditional and high tech industries.

"Adding to the mix, the Southeast has become a hotbed of entrepreneurship aided by a traditional commitment to free enterprise and a history of good labor-management relations," he adds. "Those qualities, together with a rich diversity of environmental factors, give each state a quite distinct economy."

Despite this diversity—and in some situations because of it—there are common factors which account for the perception that the Southeast basks in an economic climate that nurtures steady population, employment and per capita income growth. Southeastern states have polished this image and beckoned to business with the litany: Come South where the quality of life is high, personnel costs are low, workers are willing, living costs are reasonable, resources are abundant, and government is friendly.

The appeal has helped earn for the Southeast a reputation as a mecca of opportunity. It has produced dramatic results. Literally thousands of domestic and foreign firms selected southeastern locations for new plants, expansion programs, and relocation sites for factories, distribution centers, and office and headquarters complexes through the 1960s and 1970s.

For 1983, *Industrial Development* magazine published a "Scoreboard" of investments in corporate facilities which represented an outlay of $500,000 or more and employed at least 50 people. Overall, the thirteen southeastern states received excellent marks. These states were chosen by U.S. firms for nearly 45 percent of the 2,464 new or expanded operations and by foreign-owned businesses for 22 of the 29 facilities announced for the U.S. last year.

The economic growth engendered by these investments has attracted waves of people to the region. Population has zoomed to about 59 million, approximately one-fourth of the U.S. total, and the National Planning Association estimates that population in the Southeast will increase 27 percent by 1990.

Although migration rates have tapered since 1980, there still is no shortage of newcomers. Florida currently welcomes 1,000 new residents a day, with net migration responsible for about 90 percent of the increase. By 1990 Florida is expected to become the nation's fourth largest state.

This special report first appeared in the Fall 1984 issue of *Wachovia* magazine, and is reprinted with permission from the magazine and the Wachovia Corporation, Winston-Salem, North Carolina.

Florida isn't the only southeastern state with a well-worn welcome mat. Georgia now ranks as the fifth fastest growing state in the nation. During the 1970s even the region's less densely populated states experienced significant growth. For instance, Arkansas (population 2.3 million) grew 18.8 percent from 1970 to 1980, and net migration was credited with 58 percent of the gain. South Carolina (3.3 million) experienced a 20.4 percent increase during the decade, with 52 percent attributable to net migration.

The availability of jobs has been complemented by the increased desire of many people to live in less-congested communities with more breathing room. In their enticements, the southeastern states frequently point out that lower living costs, especially housing and taxes, boost take-home pay. Georgia, for example, notes that relocating executives can realize as much as 15 percent increase in take-home pay through lower taxes and living costs.

HIGH TECHNOLOGY IN HIGH DRIVE

The appeal to growth industries and to qualified high tech professionals is made at a constant, high pitch. Industries which respond to the region's courting are greeted with unabashed pride and enthusiasm. Increasingly, they are finding that their industrial neighbors are involved in similar technological pursuits.

An article in the September 1983 issue of the Federal Reserve Bank of Atlanta's *Economic Review* took an in-depth look at the efforts of eight states (Alabama, Florida, Georgia, Louisiana, Mississippi, North and South Carolina, and Tennessee) to attract high technology firms. The report concluded that high technology added more than 105,000 manufacturing and service jobs in these states between 1977 and 1982. By 1982, these states boasted high technology industries employing nearly one-half million people.

In profiling activity hotbeds, the article cited selected high tech job statistics: Florida, 126,000 jobs; North Carolina's Research Triangle Park, 20,000 with statewide high tech manufacturing employment reaching 77,000; metro Atlanta, 33,000; Tennessee's Oak Ridge-Knoxville corridor, 46,800, including 16,800 people at three Department of Energy facilities and Tennessee Valley Authority (TVA) headquarters; and Huntsville, Alabama, with 20,000. With employment totaling more than 300,000, these five strongholds represented 60 percent of the high tech employment in the eight states.

For anyone who still thinks of Florida in terms of orange groves, retirees, and parading Disney characters, the state's industrial mix is an eye-opener. Measured by either absolute employment or its high tech sector's 27 percent share of state manufacturing employment, Florida leads the Southeast. When it sent off Explorer I, the first successful satellite, in 1958, Florida also launched itself on a new progress track, carving out a future in aeronautics, space, and defense industries. Home to major divisions of such giants as Martin-Marietta Corporation, Motorola, and United Technologies Corporation, Florida ranks seventh nationally in the value of defense-related hard goods prime contracts.

However, defense/aeronautics activities are just part of the story. By building a critical mass of technical talent and services, defense/aeronautices companies have helped lay a foundation that can support any high tech enterprise. So, at its Boca Raton facility, IBM Corporation now produces industrial robots, while Orlando is home for General Electric Corporation's automation systems division. Eight of Florida's ten largest manufacturers center on a technology-based process or product.

In Maryland, Virginia, and Alabama, defense-related industries have provided similar springboards to progress. Numerous research and development and advanced technology manufacturing plants have sprung up in Maryland—particularly within the Baltimore-Washington Science Complex (SciCom)—and in northern Virginia, both of which have the federal government as a next-door neighbor. Both states draw from a large, technically oriented labor pool and rank first and second in the nation, respectively, in their concentration of professional and technical employees.

With its massive Redstone Arsenal complex and the NASA Space Center at Huntsville, Alabama has proven a hospitable high tech site, too. Ironically, the Federal Reserve study noted that a NASA cutback triggering personnel layoffs and uncertainties in Huntsville must be credited with fueling the new vitality. The unemployed engineers were "unusually willing to start their own companies," it explained.

Of course, several of the Southeast's high tech centers have been born without the U.S. government as midwife. North Carolina's Research Triangle Park, for instance, is the result of a combined state-business-university initiative. A desire to provide in-state jobs for graduates of universities clustered in the Raleigh-Durham-Chapel Hill triangle provided initial impetus.

The Tennessee Technology Foundation, a private nonprofit corporation, coordinates industry with state and education resources, drawing from over 50 universities around the U.S. Promoting the transfer of laboratory technologies to private industry, the foundation has already identified over 80 spin-off opportunities from Oak Ridge National Laboratory—the second largest research facility in the U.S.—and the University of Tennessee. These and related efforts are designed to support the state's fast-growing high tech sector. One in eight Tennesseans holds a job in high

tech companies that employ primarily scientists and engineers.

In a similar vein, the state of Georgia joined with Georgia Tech in 1980 to establish the Advanced Technology Development Center (ATDC). As part of its focus on shared technology, the ATDC offers low-cost, on-campus "incubator" space to provide a start-up home for small technology-based firms during their early years.

Foundation support is spreading, too. In Louisiana, the Pennington Biomedical Research Center in Baton Rouge is funded by a $125 million bequest to Louisiana State University, the largest ever made to a U.S. university. The state of Louisiana has created a technology and research fund with a goal of $500 million in endowments.

THE RISE OF SERVICE

According to The Southern Growth Policies Board, a public interstate agency governed and supported by governments in thirteen states and Puerto Rico, nondurable goods manufacturing, which accounted for one southeastern job in five in 1982, will provide only one job in fifteen by the year 2000. While this projection assumes the demise of 400,000 existing manufacturing jobs, it also anticipates the creation of seven million jobs in the service and trade sectors. The agency's manufacturing forecast isn't all gloom, either, since it sees a flourishing future for manufacturing industries specializing in precision, customized or technology-driven products from fiber optics and robots to genetically engineered compounds.

Over the years, business investments in both traditional and advanced technology facilities coupled with service/trade sector growth have helped to bolster southeastern per capita income, though the region has yet to reach U.S. personal income parity. For example, per capita personal income in Alabama was a meager four-tenths of the U.S. average in 1932, while South Carolina's was 51 percent of the national average in 1940. Since then, thanks to increases in personal income that have outpaced U.S. gains, both states are near the 80 percent mark.

NATURAL WEALTH

The Sunbelt's wealth can be measured in more than dollars, too. From mineral deposits to timber stands and underground aquifers, natural resources are impressive. A look at energy resources—coal, gas, oil, hydroelectric and solar—shows the Southeast's enviable surplus position.

Coal-rich states include Kentucky, West Virginia, Virginia, Alabama, and Arkansas. In 1982, Kentucky mined 147.9 million tons of bituminous coal to hold its top U.S. spot. But this record bounty barely dented its estimated 34.2 billion ton coal reserve base. West Virginia produced 40 percent of U.S. coal exports from 62 mineable seams, while neighboring Virginia extracted 42 million tons of coal. Besides mining coal, Arkansas runs North America's only diamond mine, while Alabama has the singular distinction of coal, iron ore, and limestone—key ingredients for steel—available in a 25-mile radius.

Oil and gas are plentiful as well. With oil wells dotted over its land and strung offshore along its coastline, Louisiana's oil and gas extraction industries employ nearly 100,000 and annually contribute about $1.4 million to public coffers through tax and lease income. But some southeastern visitors are surprised to find oil wells scattered throughout Mississippi, Alabama, Arkansas, and Kentucky as well. If extraction technology improves, there's more good news: Kentucky's oil shales are believed to have a potential yield of more than 20 billion barrels.

In Mississippi and West Virginia, just two of several southeastern states blessed with large reservoirs of natural gas, this energy source is so abundant that many companies drill their own wells. Louisiana alone produces nearly one-third of all natural gas in the U.S. Meanwhile, the region's awesome hydroelectric power capacity is efficiently tapped by the TVA, a regional development organization which now conducts solar energy pilots in addition to operating hydroelectric and nuclear power plants.

The fact that water scarcity has become an issue in portions of the western U.S. has prompted southeastern states to advertise their ready access to high-quality surface water and underground aquifers. For example, South Carolina cites studies predicting an abundance of fresh water into the 21st century, while Georgia points to its state assignment of water resources as a protection to water-dependent industries from encroachment by other firms or government.

In Arkansas, bottling 3,500-year-old spring water is an industry in itself. In Mississippi, South Carolina and other well-watered states, aquaculture or marine farming is a growth industry. One study estimates that aquaculture will become a $1.65 billion U.S. industry by the year 2000. So southeastern states are now staking claims to a healthy share of the potential market. Mississippi, for example, devotes some 70,000 acres to catfish farming and is the nation's leading grower and processor of catfish. In 1981, South Carolina's Aquaculture-Mariculture Committee started helping families—many in danger of losing generations-old farms—flood fallow rice fields to become crawfish farmers.

Forests represent another valuable, renewable resource. In six southeastern states, forests cover 55 to 75 percent of total land area; in West Virginia, the figure is 79 percent. Georgia's 25 million acres of commercial forests rank it first in the U.S. and make it

home to some of the world's largest pulp mills.

In Alabama, with 21.3 million acres of timber, forest-related industries employ 53,000 people and annually pump $3 billion into the economy. Forestry ranks as a leading industry in Arkansas, while Virginia sets a $2.8 billion annual value on the 1,000 forestry-based facilities operating in its boundaries. In South Carolina, investments in new forest products facilities, along with expansions and modernizations underway, total $1.4 billion. In Mississippi, new forest products plants, including a new $560 million pulp mill to open soon, are expected to create about 1,000 new jobs.

Of course, rich farming soil is a resource, too. Despite a continuing decline in southeastern farm employment, agriculture remains a key factor in the economy. Using 1981 U.S. Department of Agriculture state output statistics, here are rounded-off tallies for the thirteen-state region, plus its percentage of total U.S. output: 1.9 billion pounds of tobacco (95 percent); 647 million bushels of corn (8 percent); 293 million bushels of wheat (11 percent); 4.1 million bales of cotton (26 percent); 21.2 million cattle (18 percent); and 8.5 million swine (15 percent).

Yet, this summary ignores Florida's fruit and vegetable bounty, which accounts for half of that state's $12 billion-a-year agribusiness income. It also fails to reflect the savory contributions of states like Arkansas, which harvests almost every noncitrus U.S. crop there is, from rice and soybeans to peaches and watermelons.

The productivity of southeastern farmers, in turn, creates thousands of jobs in food processing, packaging, transportation, farm equipment, agri-chemicals, export, and other industries. A look at selected poultry statistics in just two states reflects agriculture's impact. In Georgia, broilers and eggs alone represent a $1 billion industry, assuring its position as poultry capital of the world. In Arkansas, the processing, freezing, and packaging of poultry employs nearly 10,000 people. The foreign export of southeastern agriculture—North Carolina alone exported agricultural products valued at $1.2 billion in 1981—has its own impact, creating transportation, warehousing, financial services, and other trade support jobs.

GROWING INTERNATIONALIZATION

Agricultural export activity brings up a key point: the Southeast's economy has a decidedly international flavor. The Southern Growth Policies Board estimates that 5 percent of the region's jobs presently relate to the manufacture of exports. Further, the interstate research group contends this percentage will double by 1990, while a full 50 percent of southeastern agricultural production will be export-related by then.

Blessed with thousands of miles of Atlantic and Gulf of Mexico shoreline and crisscrossed with mighty rivers like the Mississippi and Tennessee, the Southeast is unquestionably the nation's busiest maritime region. What's more, it has gone to amazing lengths to enhance capabilities provided by nature. For instance, the $1.9 billion Tennessee-Tombigbee project, nearing completion, is the nation's biggest inland waterway project. It will reduce by up to 300 miles the route many inland barges must navigate on the way to major Gulf terminals. In building this canal, workers will move 307 million cubic yards of earth, nearly 100 million cubic yards more than needed to construct the Panama Canal.

The Tennessee-Tombigbee will affect several states. It links to the Ohio River, which flows 664 miles along Kentucky's northern border. In Alabama, a $45 million bond issue is helping to fund modernization and expansion of facilities to handle increased barge traffic through the port of Mobile. Slicing through 95 miles of Mississippi, the Tennessee-Tombigbee is expected to bolster traffic substantially at this state's inland and Gulf ports, perhaps doubling by the year 2000 the 40 million tons of cargo handled annually.

Seaports bristle with foreign trade activity throughout the region. Virginia's port of Hampton Roads holds the number one U.S. position in total foreign trade tonnage. The port of New Orleans, the country's largest, processed an estimated $13.8 billion worth of foreign trade products in 1982. Florida, among the top six states in value of foreign trade moving through its 25 air and water ports, exported $7.4 billion in goods in 1983.

The list goes on, from the port of Baltimore—the nation's third largest in terms of cargo value—to the port of Charleston, the largest between Baltimore and Long Beach, California, for container cargo. Signs of further growth abound, including $100 million in expansion programs at Savannah and Brunswick, Georgia, and a $12 million container expansion program at Wilmington, North Carolina.

To encourage foreign trade and export-import activities, southeastern states have in recent years created some 23 Foreign Trade Zones (FTZs). While imports are stored within these zones, companies pay no duties. If products are re-exported, importers never need to tie up funds in drawbacks. FTZs also cut companies' insurance costs, since they can insure just the imported value of goods before duties or taxes.

A number of southeastern states also provide assistance to companies who want to become exporters. For instance, the Florida Bureau of International Trade and Development attracted 3,169 business people to the 86 export seminars it sponsored last year. The Bureau also took part in 23 other trade missions and shows of various kinds in the U.S. and abroad, during which it aggressively collected trade leads for its computerized referral system, a tool of-

fered in a growing number of southeastern states.

Of course, exports represent just one aspect of the southeastern economy's internationalization. In 1979, some 350,000 Southerners were employed by foreign-owned companies, a tally that continues to climb as reverse investments mount. To date, Alabama has attracted 75 foreign investments, including two new Mitsubishi plants. In 1969, only six foreign-owned companies operated in Alabama; by 1981, that figure was 50. Virginia hosts more than 230 foreign-owned establishments; Maryland is home to over 400.

Foreign companies employ about 40,000 South Carolinians, thanks to $4.1 billion invested between 1960 and 1983. This state's total capital investment by foreign manufacturers ranks it third in the nation, behind Texas and California. Tennessee now claims over 12 percent of the total Japanese dollar investment in the U.S., while Georgia is home to 720 foreign-owned operations, with foreign investment representing 19 percent of plant construction since 1980. North Carolina in 1983 repeated its position as foreign investors' top choice for new plants, attracting sixteen of the 29 foreign-owned plants announced in the U.S.

TOURIST ATTRACTIONS

The Southeast's natural beauty—sunny beaches, mountain vistas, sparkling lakes and unspoiled countryside—translates into jobs, too, since millions of people annually head South for vacation and retirement destinations. Often man-made attractions combine with nature to create an irresistible tourist magnet. For instance, the 1984 World's Fair in New Orleans boosted Louisiana's tourist headcount to some 35 million in a year. Permanent southern tourist lures run the gamut from annual sporting events like the Kentucky Derby, which pulls 150,000 visitors a year to Churchill Downs, to amusement centers like Six Flags over Georgia, to cultural attractions like Mississippi's Delta Blues Festival near Greenville, to historic settings, like Virginia's Williamsburg and North Carolina's 400th Anniversary Center in Manteo, and to technological parks like Alabama's Space Museum in Huntsville.

Without question, though, Florida is the region's tourist capital. Its 8,000-mile coastline coupled with Disney World's EPCOT Center and other world-class attractions brought 39 million tourists in 1983. Here, tourism provides jobs for some 660,000 people, or 8.9 percent of the workforce. Though the numbers are smaller in other states, tourism is a key employer. For instance, tourism generates jobs for about 202,000 Georgians, 68,000 South Carolinians, and 45,000 West Virginians. It ranks as North Carolina's third largest industry, based on revenues.

A sampling of the economic values that southeastern states set on their travel and tourism industries shows $1 billion as almost an entry point. In billions, then, here's a rundown on tourism in the top six states: Florida, $22.8; Georgia, $6.4; North Carolina, $3.4; Virginia, $3; Maryland, $2.7; and South Carolina, $2.5.

The lure of the South as a retirement site has a positive impact on the region's economy as well. Federal Reserve Board of Atlanta research indicates the number of southeastern elderly grew at twice the rate of the region's general population during the 1970s. Further, it stresses that large jumps in retiree incomes coupled with elderly spending patterns bring affluence and economic stability to communities that rely on "gray dollars" during times of recession or high unemployment.

Florida has even found that retirees seeking full and part-time employment are a valuable labor pool asset. While stressing that the state has the nation's eighth largest prime working age population, Florida adds that nearly 148,000 persons aged 45 and older, of whom many are highly educated professionals, registered with its employment service in 1980-81.

A LOOK AHEAD

Clearly, the Southeast offers abundant illustrations of past progress and current good news. Yet, to realistically appraise the region's economy and assess its future prospects, some troublesome problems must be recognized. At the same time, regional economists note, it's important to look at the Southeast in the context of the overall U.S. economy.

Many futurists contend that America's economic climate is shifting. They say the nation is in mid-transition from an industrial to an information society. As this transformation continues, they see U.S. manufacturing declining as third world nations claim a larger share of the world manufacturing pie. Simultaneously, they predict dramatic U.S. increases in knowledge work and service industries.

Naturally, such shifts could alter the criteria that determine which U.S. regions are winners and losers in the march toward a new century. For instance, if the U.S. is in the throes of becoming an information/service society, might not the Southeast's industrialization drive of the 1960s and 1970s backfire, making the region overly dependent on declining nondurable goods manufacturing? Or, given the premise that so-called knowledge work is the basis for future growth, could the Southeast's cheap labor—usually touted as an asset—become a drawback? Would an overabundant supply of unskilled and semi-skilled labor handicap efforts to attract high technology companies more concerned with education levels than wage rates? These tough questions are among those shaping

responses to the region's three major challenges: a rural-urban development dichotomy; an education gap which, while diminishing, remains a concern; and concentrated one-industry pockets which increase unemployment and recession risks.

In many cases, rural locales lack the infrastructure to attract any industry which might provide work to people unable to make a living on farms. In other instances, towns hosting traditional low-wage manufacturing industries have found their mainstay employers locked in a struggle to survive with fierce foreign competition. For example, the recent U.S. recession coupled with a strong dollar worsened survival chances for many individual firms. In 1982, for instance, forty textile mills closed in Georgia and North Carolina and another forty in South Carolina. During the first quarter of 1984, while the jobless rate in metro Nashville was 5.5 percent, some rural Tennessee counties' unemployment rates remained above 20 percent. Some 40 percent of this state's residents live in rural areas with fewer than 2,500 people.

According to U.S. Department of Agriculture research, southeastern farm families relied on off-farm employment for about two-thirds of their income in 1981. If existing manufacturing jobs vanish in rural counties and new jobs aren't found, the SGPB says it could hasten the decline of the southeastern family farm, altering the character of many rural communities and reducing agricultural production significantly.

EDUCATION LAG

In an era of increasing manufacturing sophistication, the lack of a well-educated workforce poses one big development handicap for rural communities. As late as 1960, more than one-third of all southeastern rural blacks had less than five years of school. Yet, education poses a problem for the region as a whole, not just its rural areas. The problem is two-fold. First, there is the quality-of-education question for today's school-age children. According to National Assessment of Education Progress statistics on the results of 1971-80 reading tests (nine and 17-year-olds) and 1973-83 math tests (13-and 17-year-olds), southeastern youngsters' scores were below the U.S. average.

The second educational dilemma centers on the educational level of adults beyond school age. In the U.S. as a whole in 1980, an average of 33.7 percent of adults had less than a high school education. In Kentucky, which ranked 50th, 48.1 percent of adults had less than a high school education.

"Education is a century-old problem," says SGPB's executive director Dr. Jesse White. "Partially because the South was impoverished by the Civil War, it underinvested in education for a very long time. Interestingly, though, this underinvestment has been primarily in elementary and secondary education. While the region has historically invested less per capita than the rest of the nation in kindergarten through 12th grade schooling, it has simultaneously spent more per capita than the rest of the country on higher education. That's why a number of states that have elementary and secondary school problems also have universities with excellent reputations."

Another regional economic difficulty is posed by geographic concentrations of certain industries, making host sites vulnerable when there are downturns in specific economic sectors. Areas within energy-rich states often fit this description. In Louisiana, for example, oil, gas, and petrochemical industries directly or indirectly employ one in four workers. So it's no surprise that a recession which saw the disappearance of eight petroleum refineries also dismissed thousands of Louisiana workers. Similarly, in Alabama, two large coal mines closed in 1983 and mining employment fell 6.7 percent.

PROMISING SOLUTIONS

While difficulties such as these should not be underestimated, all the southeastern states have initiatives designed to tackle these problems. Focusing on the urban-rural development dichotomy, for instance, Arkansas' Community Development Section offers clinics for local business people to discuss how they can make their cities more attractive for investment. A Certified Cities Program helps communities qualify for industrial development activities including the use of community development block grants, and enterprise zones in depressed areas provide tax incentives to businesses which locate in designated areas.

Other states in the region offer similar assistance. Louisville, Kentucky's enterprise zone, has helped restore vibrant business activity to an older declining industrial area of the inner city. while South Carolina offers corporate income tax credit for job creation in twelve less-developed counties.

On the education front, the pace of change is almost frantic. "State governments now recognize that they must have a functionally literate, skilled workforce to attract the growth industries of the future," says Dr. White. "They realize education is an economic issue and they're acting on that reality. Some states have raised taxes. But the improvement efforts go beyond money and include competency testing for teachers as well as students, career development for educators, merit pay, etc. School integration was at center stage ten years ago. Today, quality of education has the spotlight."

Examples: North Carolina operates residential high schools for gifted students in math and sciences as well as the arts. A 213 percent increase in expenditure

per pupil moved West Virginia to 14th in the nation in terms of its elementary/secondary school investment. Tennessee helped pioneer a new career development program for educators. In 1982, Mississippi passed an education reform act focused on improving elementary/secondary schools. A part of Arkansas' new educational act provides for computer-based schools. Arkansas, along with South Carolina and other states, also increased its sales tax 1 percent to fund educational improvements.

To bring more diversity to areas dependent on given industries, state efforts run the gamut from the development of new high tech centers to help for would-be entrepreneurs. Also, state governments and educational institutions are reacting quickly when large traditional employers run into difficulties. In 1982, for instance, when General Motors said it would close a Tuscaloosa carburetor plant, the University of Alabama rented the facility for three years, betting $1.5 million that faculty and staff could turn things around through applied research. The turnaround took just eight months. Since then, GM has invested $13.9 million to make it a flexible, world-class facility.

In South Carolina, Rapid Response Teams (RRTs) first look for ways to save a plant in trouble. Already they've succeeded in saving Anderson Mills and 450 jobs through marketing and cash-flow suggestions. Where it's proven impossible to save companies, the RRTs have minimized the economic impact of plant closings by helping with phaseouts, planned layoffs, and workers' skills profiles for reemployment and retraining.

Initiatives such as these, evident in all thirteen states, demonstrates the New South is as aggressive in solving old problems as it is in recruiting new business. While the Southeast may not be a monolithic unit, there is at least one strong common bond: optimism about the future.

Economic Growth in the Southeastern Piedmont

Suzanne A. Lindsay

The importance of transportation links to Southeastern development has long been apparent; growth along the interstate highways traversing the piedmont areas of Alabama, Georgia, North Carolina, and South Carolina has been particularly noted. Thirteen urban concentrations that meet the U.S. Bureau of the Census' definition of a metropolitan statistical area* lie below the Appalachian highlands with cities such as Huntsville, Chattanooga, and Asheville, but above the cities of the fall line (such as Montgomery, Alabama; Columbus, Macon, and Augusta, Georgia; Columbia, South Carolina; and Fayetteville, North Carolina). The piedmont MSAs stretch over 600 road miles from Tuscaloosa, Alabama to Raleigh-Durham, North Carolina, forming an emerging continuous network of urban communities tied together by Interstates 85 and 20, supplemented by Interstates 40 and 77 in North Carolina. In contrast, Washington, D.C. and Boston, the anchors for the massive Northeastern corridor that includes Baltimore, Philadelphia, and New York, lie about 450 road miles apart.

The geographic similarities of the piedmont MSAs, and the concept of a corridor of growth linking them, may obscure the very real diversity among the four states and the thirteen MSAs. Data on population and employment growth from 1970 to 1982 reveal substantial differences among both states and urban areas. The recent release by the Bureau of Economic Analysis of such data, recalculated for past years to the 1983 definitions of the MSAs, allows the comparison of individual MSAs' patterns of growth. To allow analysis by states, data for one shared MSA, Charlotte-Gastonia-Rock Hill, NC.-S.C., have been adjusted to reflect only the portion of the MSA lying within each state.

*To qualify as an MSA, an urban area must have either a city of at least 50,000 population, or an urbanized area of at least 50,000 population, with a total metropolitan area population of at least 100,000.

PIEDMONT MSAs

Although small geographic gaps remain between the piedmont MSAs (see Figure 1), the urbanized belt already is almost continuous. The proportion of counties included in all metropolitan areas is quite similar for all four states (Table 1). As a percentage of state counties, however, those included in piedmont MSAs vary from 10.9 percent in South Carolina to almost twice that proportion, 21 percent, in North Carolina. North Carolina's five piedmont MSAs include 84 percent of all *metropolitan* counties in that state; the equivalent percentages for the other states are Georgia, 57.9 percent, Alabama, 42.1 percent, and South Carolina, 41.7 percent. The impact of economic change in the piedmont MSAs thus is likely to be very important in North Carolina, and substantial in the other states.

Estimates of total population in 1982 for each state reflect considerable disparities (Table 2). North Carolina had almost twice as many people as South Carolina, with Georgia second in total population and Alabama third. Rankings of the metropolitan portion of total population put Georgia first, however, followed by North Carolina, Alabama, and South Carolina. Among the piedmont MSAs, Atlanta was by far the largest, followed by the North Carolina portion of the Charlotte-Gastonia-Rock Hill MSA, the Birmingham MSA, and the Greensboro-Winston-Salem-High Point MSA.

Population divided by land area gives a measure of density or population per square mile. In 1982, North

Figure 1. Piedmont MSA's

TABLE 1

Total, MSA, and Piedmont MSA Counties in Selected States

State	Number of Counties			MSA Counties as Percent of Total	Piedmont MSA Counties as Percent of	
	Total	MSAs	Piedmont MSAs		Total	MSA Counties
Alabama	67	19	8	28.4	11.9	42.1
Georgia	159	38	22	23.9	13.8	57.9
North Carolina	100	25	21	25.0	21.0	84.0
South Carolina	46	12	5	26.1	10.9	41.7

Source: Based on 1983 definitions of metropolitan statistical areas from Office of Management and Budget, Metropolitan Statistical Areas, 1983; number of counties from U.S. Bureau of the Census, 1980 Census of Population, Vol. 1.

TABLE 2

Population Characteristics of Selected States and Piedmont MSAs, 1970 and 1982

Area	1982 Population (000)	Annual Average % Change, 1970-1982	% of State Total 1970	% of State Total 1982	Population Per Square Mile, 1982[a]
Alabama	3945.7	1.13	100.0	100.0	77.7
Metropolitan Portion	2505.2	1.19	63.0	63.5	190.4
Piedmont MSAs	1256.4	1.05	32.1	31.8	193.3
Anniston	123.7	1.53	3.0	3.1	202.5
Birmingham	891.1	.95	23.1	22.6	222.2
Gadsden	103.5	.80	2.7	2.6	191.0
Tuscaloosa	138.1	1.43	3.4	3.5	103.4
Georgia	5642.0	1.71	100.0	100.0	97.2
Metropolitan Portion	3540.0	1.92	61.2	62.7	322.7
Piedmont MSAs	2376.7	2.33	39.2	42.1	390.8
Athens	133.6	1.76	2.4	2.4	142.9
Atlanta	2243.1	2.36	36.8	39.8	435.8
North Carolina	6016.1	1.39	100.0	100.0	123.2
Metropolitan Portion	3285.9	1.46	54.2	54.6	272.4
Piedmont MSAs	2648.4	1.49	43.5	44.0	270.3
Burlington	100.8	.34	1.9	1.7	232.8
Charlotte-Gastonia-Rock Hill (NC Only)	892.4	1.38	14.8	14.8	329.9
Greensboro-Winston Salem-High Point	868.4	1.28	14.6	14.4	251.3
Hickory	207.4	1.60	3.4	3.4	178.8
Raleigh-Durham	579.4	2.16	8.8	9.6	283.2
South Carolina	3212.7	1.78	100.0	100.0	106.4
Metropolitan Portion	1926.5	2.05	58.1	60.0	203.3
Piedmont MSAs	827.9	1.82	25.7	25.8	235.8
Anderson	136.5	2.15	4.1	4.2	190.1
Charlotte-Gastonia-Rock Hill (SC Only)	110.3	2.11	3.3	3.4	161.0
Greenville-Spartanburg	581.1	1.69	18.3	18.1	275.7

[a]Based on 1980 land area estimates for constituent counties (1983 MSA definitions).

Note: Percentages may not add to totals because of rounding.

Source: Based on U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, "Regional Economic Profile" (April 1984); Bureau of the Census, 1980 Census of Population, Vol. 1, "Number of Inhabitants" for indicated states. Piedmont MSA totals equal the sum of constituent MSAs. Estimates for Charlotte-Gastonia-Rock Hill MSA (NC-SC) adjusted to show only portion falling within each state's boundaries.

Carolina had the highest statewide population density, followed by South Carolina, Georgia, and Alabama. Metropolitan-area density was highest in Georgia, which also had the highest density for piedmont MSAs as a group. Those standings reflect the inclusion of Atlanta, the piedmont MSA largest in land area and highest (at 435.8 persons per square mile) in population density. The North Carolina portion of the Charlotte-Gastonia-Rock Hill MSA stood second in individual MSA density, followed by Raleigh-Durham, Greenville-Spartanburg, and Greensboro. Birmingham trailed with 222.2 persons per square mile.

POPULATION DISTRIBUTION AND GROWTH

Table 2 also shows that when current MSA definitions are carried back to 1970, the percentage shares of total state population held by metropolitan areas, piedmont MSAs, and individual MSAs have remained relatively stable. In Alabama, the Gadsden and Birmingham

MSAs lost ground slightly, as did the piedmont MSAs as a group; the Anniston and Tuscaloosa MSAs gained slightly, but patterns among individual MSAs were mixed, with Raleigh-Durham the only gainer. In South Carolina, the piedmont MSAs' share increased fractionally, with small offsetting changes among the individual MSAs.

Between 1970 and 1982, annual average rates of growth in population for the four states and their subareas reflected greater differences. Overall, South Carolina's rate of growth was the highest (1.8 percent), followed by Georgia (1.7 percent), North Carolina (1.4 percent), and Alabama (1.1 percent). In each state, metropolitan areas grew at higher rates than those for the state as a whole. In North Carolina and Georgia, piedmont MSAs as a group grew faster than both the state and its metropolitan areas. In South Carolina and Alabama, rates of growth for piedmont MSAs were higher than those for the state as a whole but lower than those for all metropolitan areas (Table 2).

Growth rates varied considerably among individual piedmont MSAs. Some smaller MSAs such as Anniston and Tuscaloosa, Alabama, Raleigh-Durham, N.C., and Anderson, S.C., grew at much higher rates than did larger MSAs in those states. In Georgia, Atlanta greatly outperformed the Athens MSA.

POPULATION AND TOTAL EMPLOYMENT GROWTH

A comparison of annual average rates of growth for population and for total employment or its components must be qualified by noting that the rates for employment are affected by general economic conditions in both the beginning and ending years used for analysis. During the first three quarters of 1970, the national economy was in recession; nonagricultural employment began to recover in the fourth quarter. During all four quarters of 1982, the latest year of BEA data available for study on a substate basis, the national economy was in severe recession. To the extent that state and local conditions mirrored national conditions, using 1970 and 1982 data as endpoints yields lower annual average growth rates than would result if periods of recovery were used. Analysis of 1983 and 1984 data, when it is available, may show quite different pictures—and incidentally, measure the strength of recovery in employment.

In all four southeastern states, their metropolitan portions, and their piedmont MSAs as a group, over 1970-82 annual average rates of growth in employment exceeded those for population (Tables 2,3). Georgia led, with an annual average growth rate of 2.3 percent in total employment for the period; South Carolina was next (1.9 percent), North Carolina third (1.6 percent) and Alabama last (1.4 percent). Many individual piedmont MSAs also saw employment grow faster than population; exceptions were the Anniston and Gadsden MSAs in Alabama, Burlington and Hickory MSAs in North Carolina, the Anderson, S.C. MSA, and the South Carolina portion of the Charlotte-Gastonia-Rock Hill MSA.

NONFARM EMPLOYMENT GROWTH

Annual average rates of growth for nonfarm proprietors and nonfarm wage and salary employment, the two largest components of total employment in urban areas, show that nonfarm proprietors, although constituting a relatively small share of total employment, were increasing at much higher rates than those for population or total employment. Growth in proprietors was particularly high in the Atlanta MSA, Raleigh-Durham MSA, and the South Carolina portion of the Charlotte-Gastonia-Rock Hill MSA. In general, annual average growth rates in nonfarm wage and salary employment, which provides the bulk of MSA jobs, also exceeded those for population and total employment. Some individual piedmont MSAs, however, lagged in wage and salary employment as well as in total employment. More detailed data for nonfarm wage and salary employment by industry help to show some of the forces behind those lags.

EMPLOYMENT GROWTH BY INDUSTRY

Individual MSA's growth rate for employment by industry are affected by deletion of base data because of confidentiality requirements; subtotals for larger areas (piedmont MSAs and the total metropolitan portion of a state) are also affected. Because of such deletions, some annual average growth rates, 1970-1982, for nonfarm wage and salary employment by industry (Table 4) must be interpreted with caution; rates marked *E* or *a* should be regarded as *minimums*. Since detailed substate employment estimates for agricultural services and mining are largely unavailable, growth rates for those sectors have been omitted as employment is quite low for most of the MSAs considered here.

In the four southeastern states, their metropolitan areas, piedmont MSAs as a group, and individual MSAs, employment in most nonmanufacturing sectors grew at faster rates than did total nonfarm wage and salary employment. Transportation and public utilities; combined wholesale and retail trade, finance, insurance and real estate; services; and, to a lesser extent, government, had annual average growth rates varying substantially among individual MSAs; a few MSAs had negative growth in one or more categories. Growth rates in construction employment ranged from a high of 2.5 percent in the South Carolina portion of the Charlotte-Gastonia-Rock Hill MSA, fol-

TABLE 3

Characteristics of Major Categories of Employment,
Selected States and Piedmont MSAs, 1982

Area	Total Employment		Non-Farm Proprietors		Non-Farm Wage/Salary	
	Number	Annual Average % Change, 1970-1982	Number	Annual Average % Change, 1970-1982	Number	Annual Average % Change, 1970-1982
Alabama	1634042	1.43	106245	2.44	1433935	1.61
Metropolitan Portion	1086164	1.58	64497	2.80	991107	1.61
Piedmont MSAs	539294	1.41	31020	2.47	497531	1.41
Anniston	54155	1.37	3116	2.48	49814	1.37
Birmingham	392832	1.44	22467	2.54	363499	1.43
Gadsden	37253	.69	2568	1.69	33087	.74
Tuscaloosa	55054	1.69	2869	2.61	51131	1.74
Georgia	2668049	2.27	163743	2.96	2390138	2.33
Metropolitan Portion	1780282	2.43	102709	3.79	1657246	2.40
Piedmont MSAs	1247593	3.11	75292	4.45	1159678	3.08
Athens	62381	2.26	3581	2.84	55730	2.34
Atlanta	1185212	3.16	71711	4.54	1103948	3.12
North Carolina	2904867	1.59	188335	2.45	2548157	1.87
Metropolitan Portion	1746711	1.78	97412	2.57	1608940	1.88
Piedmont MSAs	1435051	1.95	81423	2.58	1319232	2.07
Burlington	49741	-.03	3773	2.50	44259	-.14
Charlotte-Gastonia-Rock Hill (NC Only)	480242	1.80	26388	2.25	446217	1.87
Greensboro-Winston Salem-High Point	456817	1.57	27812	2.30	415036	1.72
Hickory	112910	1.26	6610	2.15	103791	1.34
Raleigh-Durham	335341	3.42	16840	3.86	309929	3.63
South Carolina	1462491	1.94	89434	2.81	1304167	2.11
Metropolitan Portion	917601	2.38	55731	3.44	842282	2.44
Piedmont MSAs	393886	2.04	25304	3.05	360364	2.08
Anderson	55068	1.42	3791	2.84	49161	1.46
Charlotte-Gastonia-Rock Hill (SC Only)	47477	2.05	2985	3.25	43386	2.11
Greenville-Spartanburg	291341	2.16	18528	3.07	267817	2.19

Source: Based on U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, "Employment by Type and Broad Industrial Sources," (April 1984) for indicated states and MSAs. Piedmont MSA totals equal the sum of constituent MSAs. Estimates for Charlotte-Gastonia-Rock Hill MSA (NC-SC) adjusted to show only portion falling within each state's boundaries.

TABLE 4

Annual Average Rates of Growth in Non-Farm Wage and Salary Employment By Industry, 1970-1982, Selected States and Piedmont MSAs

Area	Total Non-Farm Wage/Salary Employment (%)	Construction	Manufacturing			Transportation, Public Utilities	Wholesale and Retail Trade	Fin., Insur., & Real Estate	Services	Government
			Total	Non-Durable	Durable					
Alabama	1.61	1.03$_{E}$	0.34	0.59$_{E}$	0.06$_{E}$	1.82$_{E}$	2.59$_{E}$	3.57	1.67$_{E}$	1.74
Metropolitan Portion	1.61	1.95$_{E}$	-0.28	0.64$_{E}$	-0.62$_{E}$	1.91$_{E}$	2.58$_{E}$	3.31	2.22$_{E}$	1.54
Piedmont MSAs	1.41	1.50$_{E}$	-2.20	-0.52	-3.14	1.93$_{E}$	2.34	3.11	2.55	2.19
Anniston	1.37	-0.89$_{E}$	-1.61	-0.83	-2.38	0.65	3.65	2.65	-0.25	2.87
Birmingham	1.43	2.26$_{E}$	-2.56	-0.92	-3.17	2.13	2.13	3.22	2.95	1.95
Gadsden	.74	-2.04	-0.60	2.52	-3.71	0.21	1.32	2.12	1.93	1.89
Tuscaloosa	1.74	-1.22	-2.24	-1.78	-3.16	1.56	3.83	2.56	1.44	2.33
Georgia	2.33	2.08$_{E}$	0.58$_{E}$	0.36	1.01$_{E}$	2.75$_{E}$	3.69	3.61$_{E}$	2.78$_{E}$	2.27
Metropolitan Portion	2.40	1.70$_{E}$	0.89$_{E}$	(D)	1.02$_{E}$	2.97$_{E}$	3.85	3.84$_{E}$	3.68$_{E}$	1.63
Piedmont MSAs	3.08	1.96	0.25	-0.71^{a}	0.32$_{E}$	3.25	4.14^{a}	3.52	4.34$_{E}$	3.36
Athens	2.34	-1.57	0.96	(D)	1.80	-0.68$_{E}$	3.18^{a}	2.50	3.43$_{E}$	2.36
Atlanta	3.12	2.10	0.19	0.15	0.24	3.33$_{E}$	4.17$_{E}$	3.54	4.38$_{E}$	3.46
North Carolina	1.87	0.28$_{E}$	0.68	-0.18	2.40	1.90$_{E}$	3.33$_{E}$	2.85$_{E}$	2.52$_{E}$	2.20
Metropolitan Portion	1.88	0.36^{a}	0.38	-0.77	2.41	2.21$_{E}$	3.36^{a}	2.48$_{E}$	3.37^{a}	2.02
Piedmont MSAs	2.07	0.46^{a}	0.40	-0.79	2.52	(D)	3.24^{a}	2.58$_{E}$	0.47^{a}	3.18
Burlington	-0.14	(D)	-2.25	-2.08	-2.97	(D)	2.14	3.11	2.42	1.70
Charlotte-Gastonia-Rock Hill (NC Only)	1.87	-0.18	0.05	-1.13	3.81	(D)	3.20	3.15	(D)	3.18
Greensboro-Winston-Salem-High Point	1.72	-0.68	0.33	-0.37	1.40	(D)	3.10$_{E}$	1.79$_{E}$	4.03$_{E}$	2.80
Hickory	1.34	-0.25	0.34	-0.95	1.60	-0.08	1.16^{a}	2.00$_{E}$	3.70	2.73
Raleigh-Durham	3.63	2.41	3.35	0.44	6.12	4.05	4.28	2.66$_{E}$	3.76	3.64
South Carolina	2.11	1.65	0.55	-0.14	2.35	2.88	4.18$_{E}$	4.86$_{E}$	2.20$_{E}$	2.25
Metropolitan Portion	2.44	1.52	0.67	0.12	2.06	(D)^{a}	4.01$_{E}$	5.01$_{E}$	2.26$_{E}$	2.77
Piedmont MSAs	2.08	1.42	0.42	-0.26	2.79	0.61^{a}	3.88	3.94	0.80^{a}	3.77
Anderson	1.46	-0.76	0.15	0.01	0.72	2.28	3.86	5.03	0.30	4.51
Charlotte-Gastonia-Rock Hill (SC Only)	2.11	2.50	-1.38	-2.26	9.23	(D)	2.79	3.22	(D)	1.62
Greenville-Spartanburg	2.19	1.59	0.76	0.04	2.87	0.86	4.03	3.90	2.38	4.02

(D) Base data deleted to protect confidentiality.
E Base estimate constitutes the major part of the true estimate.
a Based on minimum estimate because of deleted data.

Source: Based on U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, "Employment by Type and Broad Industrial Sources," (April 1984). Estimates for Piedmont MSAs based on sum of data for constituent MSAs; estimates for Charlotte-Gastonia-Rock Hill MSA (NC-SC) based on data for portion within each state's boundaries.

lowed closely by Raleigh-Durham, North Carolina (2.4 percent), to a negative value of -2 percent for the Gadsden, Alabama MSA. Given the recessionary character of 1970 and 1982, and the vulnerability of construction to cyclical downturns, such variability is not surprising.

Total manufacturing employment showed very low or negative growth for most areas. Both durable and nondurable manufacturing employment growth rates were negative for most Alabama piedmont MSAs. Nondurable manufacturing rates were negative for North Carolina as a state, and for all its piedmont MSAs except Raleigh-Durham. The South Carolina portion of the Charlotte-Gastonia-Rock Hill MSA also suffered negative annual average growth in nondurable manufacturing employment. The rate for piedmont MSAs in Georgia also was negative but must be interpreted with caution, since some base data for the Athens MSA have been deleted.

Although the BEA does not publish detailed subindustry data for local areas, information from sources such as the Bureau of Labor Statistics indicates that the MSAs with negative manufacturing employment growth rates over 1970-1982 had concentrations of employment in smokestack industries (most of the Alabama MSAs), in textiles and apparel (the Carolinas, Georgia, and Alabama), or in furniture (North Carolina), all industries severely affected by the recessions of 1980-82. In contrast, some areas more than held their own: the Raleigh-Durham area had an annual average growth rate of 6.1 percent in durable manufacturing employment for the period, and the South Carolina portion of the Charlotte-Gastonia-Rock Hill MSA had a rate of 9.2 percent in durables employment. In general, except for Alabama, durable manufacturing employment exhibited positive annual average growth rates, even with downturn years used for analysis.

SOME IMPLICATIONS OF INDUSTRIAL GROWTH

The ranges of annual average growth rates for nonfarm wage and salary employment by industry emphasize the diversity of development in the four southeastern states and their piedmont MSAs. The emergence of Atlanta as a regional force, for example, is reflected in its relatively high growth rates for employment in trade, services, and finance, insurance, and real estate. The Raleigh-Durham MSA benefits from its position as the center for a developing high tech area, three major educational institutions, and the location of the state capitol. In South Carolina, the Greenville-Spartanburg MSA was particularly strong in trade employment; in Alabama, Tuscaloosa and Birmingham grew relatively strongly, except for manufacturing and construction.

The prospects for the development of an urban belt across the southeastern piedmont seem good. The gaps between existing MSAs are small; the shift of only seven counties—two in South Carolina, three in Georgia, and two in Alabama—from nonmetropolitan to metropolitan status, would connect them. At least one area in Georgia already is growing rapidly. In 1982 Carroll, Heard, and Haralson counties had a combined total population of 84,500, with 59,000 concentrated in Carroll county alone. If metropolitan growth continues, the three counties could become Georgia's ninth MSA, closing the gap between the Atlanta MSA to the east and the Birmingham-Gadsden-Anniston MSAs to the west.

The transportation links that have fostered economic development in the southeastern piedmont MSAs will remain important, but general economic conditions and policy decisions made at the state and national levels may be even more significant for the areas' futures. All four states have textile and apparel industries under heavy foreign competition; the value of the dollar and national trade policy may well determine their long-run health. The Raleigh-Durham area shows the results of a deliberate state effort to attract new industries and jobs through educational resources and economic planning. Atlanta's location, diversified economy, and growing importance as a financial and services center give it a leading position in Georgia and the Southeast; its ability to attract high tech manufacturing industries is less clear. The struggle of the Birmingham-area MSAs with an economy heavily dependent on smokestack industry is a southern version of the problems of such heavily industrialized north central states as Ohio and Indiana. Given such differences, the emerging piedmont corridor is likely to resemble not a single metropolitan organism, but rather an extended family of metropolitan areas, related in location but distinctly individual in patterns of growth.

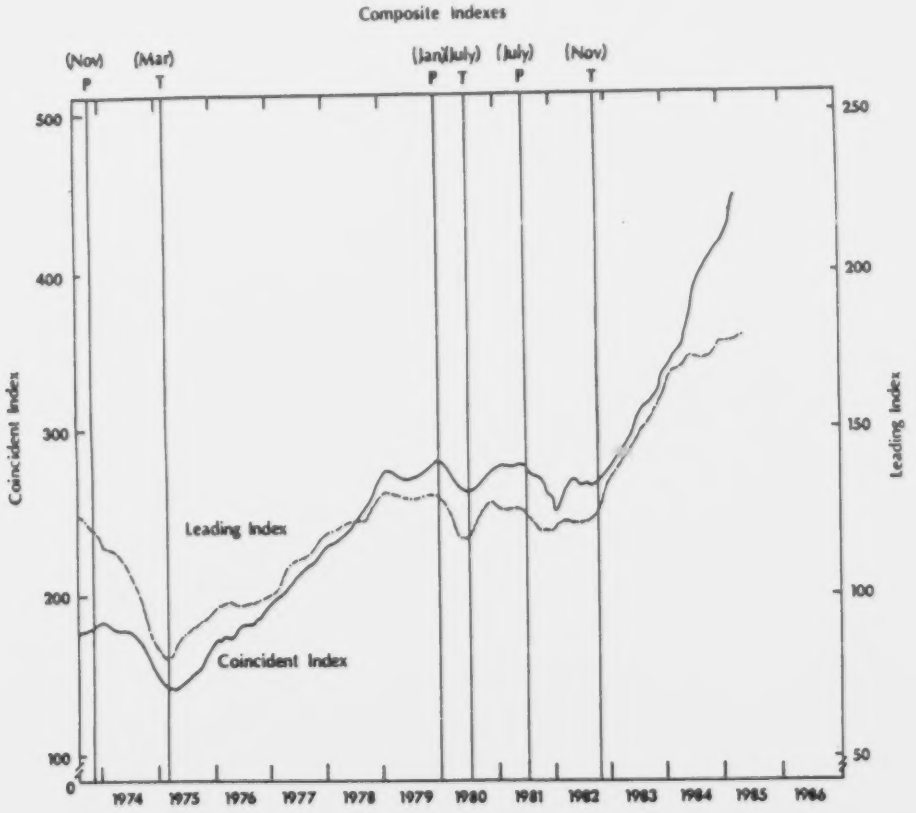
Composite Indexes of Leading and Coincident Georgia Economic Indicators

In February the coincident and leading indicators of Georgia's economic activity rose slightly, with the coincident indicator up 2.3 percent and the leading indicator gaining .6 percent. Changes in seasonally adjusted real manufacturing weekly earnings and in nonagricultural employment accounted for the increase in the coincident indicator. Manufacturing weekly earnings were up 2.2 percent, while nonagricultural employment posted a 1 percent increase. The offsetter, however, was the 3.4 percent decline in real retail sales.

The moderate increase in the leading indicator was partly due to an 8.3 percent decline in initial unemployment claims. It was also helped by the 1.1 percent growth in seasonally adjusted new housing permits, and by the 1.7 percent increase in the Atlanta Help Wanted Advertising index.

Healthy economic activity continued in March. The coincident indicator rose .6 percent due to small changes in its three components. Manufacturing weekly earnings gained 1 percent, while real retail sales were up .6 percent and seasonally adjusted nonagricultural employment rose .4 percent.

The leading indicator was also up for the month, with a 1.1 percent increase. This advance came from a 12.4 percent drop in initial unemployment claims, and a 3.7 percent increase in new housing permits. The help wanted advertising index for Atlanta fell a slight .3 percent in March. Although recent monthly figures for the advertising index suggested a small downward trend, the index is still substantially above comparable figures for 1984.



GEORGIA BUSINESS STATISTICS

SERIES	MAR 1985	FEB 1985	JAN 1985	MAR 1984
Georgia Leading Indicators Index[1] (1969=100)	172.13	170.30	169.68	164.98
Georgia Coincident Indicators Index[1] (1969=100)	437.28	434.69	434.44	362.23
Nonagricultural Employment[2] (thousands)	2563.7[r]	2536.7[r]	2537.9[r]	2385.3
Manufacturing Employment[2] (thousands)	546.1[r]	545.9[r]	548.6[r]	534.8
Average Weekly Earnings, Manufacturing[2] (dollars)	321.55[r]	313.63[r]	321.12[r]	305.52
Help Wanted Advertising, Atlanta Index[3] (1967=100)	299	300	295	261
Taxable Retail Sales[4] ($ millions)	3031.5	2686.6	2616.4	2737.0
Building Permits[5]				
Residential Housing Units, Private (thousands)	6.7	4.8	4.8	6.5[r]
Value of Residential Housing ($ thousands)	289854	202359	192037	280467[r]
Value of Nonresidential Construction ($ thousands)	152734	109728	117469	204844[r]
Industrial Buildings	12968	20366	18760	17537[r]
Office, Bank and Other Professional Buildings	42259	17381	24367	83712[r]
Stores and Other Merchantile Buildings	29412	18113	16673	19277[r]
Other	68095	53868	57669	84982[r]
Consumer Price Index[6] (CPI-U, all items)				
South U.S. (December, 1977 = 100)	-	171.5	-	166.1[a]
South/Population more than 1,250,000	-	171.0	-	165.7[a]
South/Population 385,000 to 1,250,000	-	173.0	-	166.9[a]
South/Population 75,000 to 385,000	-	171.2	-	165.3[a]
South/Population 2,500 to 75,000	-	170.1	-	166.6[a]
Atlanta (1967=100)	-	322.6	-	309.6[a]
Prices Received by Farmers, Georgia Index[7] (1977=100)	124	124[r]	123[r]	144
	1984:IV	1984:III	1984:II	1984:I
Total Personal Income[8] ($ millions)	69367	67777	65772	64199[r]

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[1] Georgia Economic Forecasting Project, Division of Research, College of Business Administration, University of Georgia. Initial monthly values subject to revision.

[2] Labor Information Systems, Georgia Department of Labor

[3] Series published by The Conference Board, Inc.

[4] Derived by the Division of Research, College of Business Administration, University of Georgia, from data of the Sales and Use Tax System, Georgia Department of Revenue

[5] U.S. Department of Commerce, Bureau of the Census. 1984 data adjusted for comparability with 17,000 place universe.

[6] U.S. Department of Labor, Bureau of Labor Statistics, Southeastern Regional Office

[7] Georgia Department of Agriculture, Georgia Crop Reporting Service

[8] U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System

[r] Revised

[a] February, 1984

Division of Research
College of Business Administration
University of Georgia
Athens, Georgia 30602

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ALBERT W. NIEMI, JR.
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DIVISION OF RESEARCH

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Graphics

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The Global Economy and Georgia's Ports

George J. Nichols

Georgia's ports have kept pace with the growth experienced throughout the Southern Rim in the past fifteen years. Considerations of climate, quality of labor, land availability, and tax incentives have produced a steady influx of new manufacturing facilities and service industries. Both domestic and foreign reverse investment are evident. The effect in terms of increased population and expansion of the transportation infrastructure is dramatic.

Changing ship technology brought about by the container revolution serves as a further inducement to growth in our ports. Fuel economics have dictated that steamship lines build larger vessels and deploy them to fewer ports. As the water carriers changed their traditional pattern of North Atlantic ports of call, Savannah emerged as a prime beneficiary of their southward shift. The new and evolving population centers demanding the import of consumer goods, coupled with a solid export base in agricultural and forest products gave the steamship lines an irresistible new frontier.

CONTAINERIZATION

The recent recession helped accelerate the containerization of cargoes which had formerly moved in older, conventional ships. Faced with the shortage of cargoes during the recent economic downturn, steamship lines were forced to offer sufficiently low rates to attract such goods. As a result, a rebounding world trade will find a sizable increase in the percentage of total cargoes moving in containers.

Several factors guarantee that the rate of containerization will continue to accelerate for the foreseeable future. Unbalanced trade means that there is an excess of containers available for exports, and the carriers are scrambling to fill their boxes to avoid the expensive practice of carrying empties on the outbound leg.

A second impetus for containerization comes in the overtonnaging apparent in many major trade routes. The soft economy has also been felt in the shipbuilding industry. Yards are seeking to stay afloat by offering extremely attractive cost/financing packages. As a result, many steamship operators are buying new vessels well in advance of actual need. This speculative building, particularly in the form of jumbo container ships, has provided a flood of new container carrying capability. The race is on to see which carriers will have the most bookings. This surplus of space should guarantee continued growth for at least the next three to five years in the containerization of cargoes which formerly moved in conventional vessels.

REGIONAL LOAD CENTERS

Armed with their modern fleets of large vessels, the container carriers are paying more attention than ever to their fleet deployment strategies. Fuel, capital, and operating costs will force the lines to abandon the old practice of tramp calls at every port with a few thousand tons of cargo to offer. These traditional port rotations are too costly under today's economic circumstances. Consequently, this has resulted in the introduction of the container port load center. Simply stated, this is the port which, for reasons of strategic location, facilities, highway and rail connections and, most important, cargo availability, becomes the carrier's base port for an entire region.

Under the load center concept for example, the ideal U.S. rotation for a line plying the trades between the East Coast and Europe would include only two ports of call—Savannah and New York. Cargoes for and from the entire eastern half of the country would

be routed through these two ports. The trend is definitely in evidence, and will continue to gain momentum as more jumbo vessels are placed in service.

Population trends and the resultant growth in manufacturing concentration and consumer goods demand are foremost in every steamship executive's mind when he considers port selection. Economics will continue to dictate marketing opportunities for all ports in the growth centers of the United States. Regionally based cargoes will become increasingly important as container ships grow larger. These are the cargoes which by virtue of their origin or destination naturally lend themselves to transit through a given port.

With the increased capital and operating costs of the new jumbo ships, steamship lines will have less money to allocate to inland freight costs. Peaks and valleys in the economies of the world's trading nations will set tolerance limits in the absorption of inland freight costs as a component of the total delivered cost of goods. Therefore, future success for ports as load centers will hinge greatly on their proximity and inland connections to large production and consumption centers.

PORT SELECTION

Quality as well as quantity of cargo offerings is a prime determinant in port selection. The mix of regionally based cargoes must be such that the carrier can produce quality ocean freight revenues. In making the final port selection decision, the steamship line executive also must evaluate inland freight costs from manufacturing origins to ports being considered. These factors can only lead to the conclusion that certain steamship lines will call at particular ports based on the cargo mix best suited to them.

An integral part in the port selection process is analysis of which carriers are already operating in the port and which are not. This allows the prospective port user to determine the competition for a given region's base cargoes. In other words, cargo availability is only as valuable as the carrier's perceived ability to capture a share of it sufficient to support its deployment costs. Unquestionably, there has been a definite change in tonnage and market share for ports around the country. A large segment of the population was attracted to the Southern Rim as a means of escaping the extreme northern climates. The new population centers which evolved as a result have spawned manufacturing facilities to serve them. These in turn provide additional jobs to attract still more workers from other parts of the country.

Then the obvious happened. Steamship lines ventured wholeheartedly into southern ports, many of them for the first time. The technology of containerization gave the steamship lines ready access to these cargoes. Combined with lower labor costs, this produced a new economic frontier for carriers. But how new was it? While the point of exit may differ, many of the cargoes do not. Previously, southern-based exporters and importers had to go north to ship their goods in world trade. As steamship service through the southern ports slowly improved, a new set of growth ports emerged, while simultaneously, a number of ports declined. Given the continuing growth in world trade however, the declines experienced by some of the northern ports occurred more in terms of market share rather than in absolute tonnage.

The factors which precipitated the population shift still exist, so the trend is expected to continue. However, the days of cheap labor and low taxes as a major attraction are over as far as industry relocations are concerned. Overall growth in the Southern Rim has produced an increased standard of living and keen competition for desirable industrial sites. Moreover, deregulation of trucking and railways will bring about better transportation costs and services to and from population centers and manufacturing plants in the South. These efficiencies promote more economical use of piggyback services which make containerization more attractive to the transportation modes than ever.

The desirability of the container as a transportation mechanism prompts steamship lines into becoming increasingly involved in negotiation of inland transportation. Ideally, the shipper would like to see his cargo go from origin to destination by a single means of transportation. The container, which can be sealed from point of production to destination, provides the ideal vehicle. As a result, the total transportation company has evolved to provide the importer/exporter with a comprehensive rate for the entire move and is responsible for procuring appropriate inland as well as ocean transportation.

Worldwide population growth, combined with emerging geo-trade opportunities, will enhance prospects for future development and growth among the U.S. ports. Based on the foregoing concept of regionally based cargoes, there probably will be more than two or three load centers on the East Coast. As the inland costs portion of the total freight bill becomes more prohibitive, different lines will choose target cargoes and population centers and select the ports with the best access to these areas.

Some new and some traditional trading partners will provide growth opportunities for U.S. ports. Latin America, Africa, and the Near East offer new horizons for international trade. Further, the historically active trade with Asia and Europe is expected to continue to keep pace with economic conditions. Still, geographic proximity to strategic world markets is more important than ever to the container ship oper-

ator because of larger ships and intermodal rates. If international trade had to depend solely on a few ports, the additional steaming time required by these larger vessels and the penalty of additional inland freight costs imposed by greater distance from selected regional ports would push rates to intolerable limits.

ADDITIONAL FACTORS

There are those who suggest that waterborne feeder services may be the ideal method to support the efficiency of the load center. Although these will continue to grow as world trade expands, feeder services will be limited by shippers' transit time tolerances. The cost of money is not forecast to get much cheaper and, as a result, inventories will stay at their presently lower levels. Because more shippers opt for the just-in-time concept which demands rapid transit times and predictable schedules, steamship lines which offer services predicated on lengthy transit times are vulnerable to carriers that make direct ports of call.

Ocean rates based on regional geography, therefore, will prevail. In this regard, strong independent steamship lines will continue to pose a threat to conference carriers. Labor cost advantages in certain ports cannot be negated totally by a steamship conference's attempts to impose single rates. Conference carriers are acutely aware of this outside competition, and they realize that any radical departure from existing pricing patterns will be unenforceable and short-lived.

Although larger ships and intermodal rates undoubtedly will give the lines greater flexibility in choosing their base or load center ports, the shipper remains the prime determinant in any port's future. Shipper acceptance of a port is a factor that must not be ignored. There always will be a number of priorities in building a port attractive to both line and shipper. In addition to the individual port's projected market share, there are the basics of good port management, organization, and planning.

First, the port must finance an adequate, unobstructed harbor. This includes provision of channel depths and widths sufficient to permit access by the larger classes of vessels now being built. Elimination of aerial obstructions such as bridges and power lines is also a key consideration. Finally, once a suitable harbor configuration is obtained, the channel must be maintained at the proper depth and width.

Facilities are important to the port user too. Docks must be sufficient in number to preclude unnecessary waiting time. They must accommodate the widely varying configurations of the container, breakbulk, and bulk vessels. Protected and open storage areas must be large enough to accommodate any cargo demand, and located dockside to facilitate rapid delivery of cargoes to and from vessels. In summary, while engineers are interested in the technical specifications of a port's physical amenities, shippers are more concerned with whether things work efficiently.

Inland access to a port is just as important as the ability to reach it from the water. Reliable rail service, preferably by more than one major carrier, is a necessity. Quick access to a sophisticated highway system is equally important. The port must do its part by assuring that all facilities are designed to incorporate ample loading and unloading capability for both inland modes. Also not to be ignored is a solid labor base upon which the port can depend. The stability and quality of this labor is vital to any steamship line.

Administrative processes must be designed to as-

Facts About the Port

Although it is eighteen miles up the Savannah River from the Atlantic, Savannah's port plays a vital role in the shipping industry of the southeastern U.S. and represents a significant portion of the local economic base. Serving Georgia and fourteen other states, the Savannah harbor has become one of the fastest growing seaports on the East Coast. There are 35 shipping companies and 31 foreign freight forwarders located here that serve over 100 shipping lines.

In 1984, over 1,700 vessels came through the port carrying 18.5 million tons of cargo. The Port Authority collected almost $204 million from these cargoes, of which major exports included wood chips, pulp, and other forest products; clay; agricultural products; machinery; and coal. Principal import items included crude petroleum and residual fuel oil; sugar; basic chemicals; and iron and steel.

New port-related employment is up, as well as hours worked by existing employees. The 1984 payroll was over $100 million for a total of over 10,000 employees. Port related construction is also up, with two major facilities expected to inject $50 million into the local economy. Container shipping is seen as the major growth area for the port, and analysts expect a 33 percent increase in containers in 1985.

–LMA

sure the efficient handling of cargo in the port. Computers provide valuable assistance with matters such as inventory, billing, accountability, issuing of orders, governmental inspections, and communications among the various transportation entities in the port. Because the majority of shippers and carriers use data processing techniques themselves, it is essential that the port provide the same caliber of service.

SUMMARY

We have seen that the trend of growth in certain ports at the expense of others is largely based on regional economic growth in the past decade, and while there is cargo consolidation in some ports, it is limited. Growth in developing trade areas will enhance the stature of certain strategically located ports which steamship lines will identify as prime candidates for their deployment. It is also believed that the emergence of intermodalism and bigger ships will extend the load center opportunity to many ports rather than to a select few.

Fewer ships carrying more cargo means greater utilization and revenue per berth to the port. Fewer berths in the future means lower costs, less use of precious waterfront land, and fewer environmental concerns. Obviously, the benefits of the load center extend beyond carrier and shipper to the port as well.

While population shifts may mean an increased market share for certain fortuitously located ports, it is reasonable to assume that an overall increase in trade will benefit the entire world port network. The success formula is basic. Each port must identify its regional cargo base, develop port and inland transportation structures to serve it, and solicit those lines whose marketing strategies most closely parallel their regional cargo availability.

George J. Nichols is executive director of the Georgia Ports Authority in Savannah, Georgia.

Recent Changes in Georgia Employment

Elizabeth S. Kasner

Georgia's economy has changed dramatically over the past fifty years. Once a poor state dominated by agriculture, Georgia now has a diversified economy with a strong manufacturing, service, and trade base. More subtle changes in the state's economic structure have occurred during the past few years. The shift-share analysis technique was applied to employment figures for the U.S. and Georgia to determine the nature of these recent changes. The period examined is 1981 to 1984. The use of these years allows assessment of the latest changes but omits the impact of the severe national recession in 1982.

SHIFT-SHARE TECHNIQUE

Shift-share analysis was first used in the 1940s and is still a popular technique with regional planners. The procedure measures changes in local employment, classified by industry, compared to changes that have occurred in national employment during a given time period.

Three components of shift-share analysis account for net employment change within an industry: national growth, industrial mix, and competitive share. The national growth component represents employment change that would have occurred in an industry if that industry had grown at the same rate as the average for all U.S. industries. Industrial mix shows relative employment changes that result when an industry grows more rapidly or slowly than the average for U.S. industries. Differing growth rates may result from changes in demand patterns or technological innovations within an industry. Competitive share is a measure of a state's ability to attract more or less than its proportion of an industry as that industry changes nationally. A positive competitive share component suggests that a state has some locational advantage which makes it attractive to a particular industry. The sum of these three factors gives net change in employment within a specific industry.

The results of shift-share analysis describe the direction and size of employment changes but do not explain why those changes occur. The technique is limited further in that employment changes refer to a specified time period only and say nothing about present or future trends. Nevertheless, shift-share analysis is a relatively simple, inexpensive technique which gives reasonably accurate results of industry-specific employment changes within a region or state.

GEORGIA RESULTS, 1981-1984

The table presents 1981 and 1984 employment figures for Georgia, net change in employment by industry, and the sources of that change. Competitive share accounted for three-fourths of overall employment growth as well as most of the individual increases within each industry. Sectors making the largest contributions to state employment growth during this three-year period were trade, services, construction, and durable manufacturing. A net loss of jobs occurred in nondurable manufacturing.

Construction. Construction employment increased by 28,200 jobs from 1981 to 1984. Increased construction activity caused by the general economic recovery and lower interest rates helped expand construction employment. Eighty-nine percent of state growth in this sector resulted from the competitive

SHIFT-SHARE ANALYSIS OF GEORGIA EMPLOYMENT
1981-1984

Employment by Industry	U.S. % Change 1981-1984	Georgia 1981	Georgia 1984	Georgia % Change	Change Related to National Growth	Change Related to Industrial Mix	Change Related to Competitive Share	Net Total Change
Total Nonagricultural Employment	3.3	2,198,600	2,457,100	11.8	72,600	-9,000	194,900	258,500
Mining	-12.3	7,700	7,900	2.6	300	-1,200	1,100	200
Contract Construction	3.0	104,200	132,400	27.1	3,400	-300	25,100	28,200
Manufacturing	-2.9	524,600	545,400	4.0	17,300	-32,500	36,200	21,000
Durable Goods	-3.9	186,100	207,200	11.3	6,100	-13,400	28,300	21,000
Lumber, Wood Products	6.5	28,700	34,400	19.9	900	900	3,800	5,600
Furniture, Fixtures	4.3	9,300	10,800	16.1	300	100	1,100	1,500
Stone, Clay, Glass Products	-5.2	17,300	19,000	9.8	600	-1,500	2,600	1,700
Primary Metal Industries	-22.1	17,600	16,200	-8.0	600	-4,500	2,500	-1,400
Fabricated Metal Products	-7.2	20,000	20,000	0.0	700	-2,100	1,400	0
Machinery, Except Electrical	-11.4	23,000	24,500	6.5	800	-3,400	4,100	1,500
Electric, Electronic Equipment	6.7	22,900	26,300	14.8	800	800	1,900	3,500
Transportation Equipment	1.5	36,000	43,400	20.6	1,200	-600	6,900	7,500
Other Durable Goods	-2.4	11,300	12,500	10.6	400	-600	1,500	1,300
Nondurable Goods	-1.3	338,500	338,300	-0.1	11,200	-15,600	4,100	-300
Food, Kindred Products	-1.7	59,500	57,000	-4.2	2,000	-300	-1,500	-2,500
Textile Mill Products	-8.5	113,600	105,700	-7.0	3,700	-13,400	1,700	-8,000
Apparel, Other Textile Products	-3.4	72,000	74,600	3.6	2,400	-4,800	5,000	2,600
Paper, Allied Products	-0.9	28,500	29,800	4.6	900	-1,200	1,600	1,300
Printing, Publishing	7.5	24,400	30,400	24.6	800	100	4,200	6,000
Chemicals, Allied Products	-4.3	17,500	18,900	8.0	600	-1,300	2,200	1,500
Leather, Leather Products	-15.2	2,500	1,700	-32.0	100	-500	-400	-800
Other Nondurable Goods	2.9	20,500	20,300	-1.0	700	-100	-800	-200
Trans., Comm., Public Utilities	0.1	144,900	154,500	6.6	4,800	-4,600	9,400	9,600
Transportation	-1.0	86,600	94,300	8.9	2,900	-3,700	8,600	7,800
Communication, Public Utilities	1.4	58,300	60,200	3.3	1,900	-1,100	1,100	1,900
Wholesale, Retail Trade	6.0	512,000	608,200	18.8	16,900	13,800	65,500	96,200
Wholesale Trade	3.2	162,100	189,600	17.0	5,300	-200	22,400	27,500
Retail Trade	7.1	350,000	418,500	19.6	11,600	13,300	43,800	68,700
Finance, Insurance, Real Estate	6.9	114,700	128,900	12.4	3,800	4,100	6,300	14,200
Services	11.0	359,500	440,000	22.4	11,900	27,700	41,000	80,600
Government	-0.4	431,100	439,900	2.0	14,200	-16,000	10,300	8,500
Federal	0.3	84,800	89,200	5.2	2,800	-2,500	4,200	4,500
State, Local	-0.5	346,300	350,700	1.3	11,400	-13,200	6,200	4,400

Note: Detail may not add to total because of rounding.

Sources: U.S. Department of Labor, Bureau of Labor Statistics (1984, 1985). Supplement to Employment, Hours, and Earnings, States and Areas, 1980-83 and Employment and Earnings (January issue), Washington, D.C.: U.S. Government Printing Office; Georgia Department of Labor (1985), Annual Report on Employment.

share component. The negative industrial mix effect reflects the fact that the national construction industry grew at a slightly lower rate than U.S. industries as a whole.

Manufacturing. The general improvement in the national economy and the state's competitive advantage accounted for a 21,000 net increase in manufacturing jobs. These two factors offset the strong negative industrial mix resulting from the national decline of manufacturing industries in general. Despite the positive growth of manufacturing jobs in the state, the sector's importance to Georgia's economy diminished slightly, declining to 22 percent of total employment in 1984 compared to 24 percent in 1981.

Most of the growth in manufacturing resulted from increases in durable goods employment. Lumber and wood products, electric and electronic equipment, and transportation equipment contributed the largest number of new jobs to durable manufacturing. Lumber and wood products, for example, created an additional 5,600 jobs. Since demand for lumber depends to a large extent on the level of residential construction, an upturn in national residential construction, as well as the state's competitive advantage, produced this growth. Higher levels of construction also increased demand for building materials and home furnishings, thus adding 1,700 jobs to stone, clay, and glass products and 1,500 jobs to furniture and fixtures. The competitive share component accounted for 54 percent of the 3,500 new jobs in electric and electronic equipment. Although expanding, this subsector remains a relatively small proportion (4.8 percent) of total manufacturing. Competitive share was again the dominant force which created most of the 7,500 new jobs in transportation equipment. The negative industrial mix figure for this subsector indicates that while 1983 and 1984 were years of solid recovery for the national automotive industry, transportation equipment jobs grew more slowly than did U.S. employment as a whole.

Primary metal industries was the only durable goods subsector which showed declining employment. The net loss of 1,400 jobs in primary metals is attributable to a negative industrial mix and suggests that this industry has not yet recovered from the severe recession of 1982 or from the continuing effects of import competition.

Nondurable goods industries showed a net loss of 300 jobs between 1981 and 1984. Employment declines in food and kindred products (−2,500), textile goods (−8,000), and leather items (−800) contributed to this downturn. Negative competitive share and industrial mix were responsible for the employment loss in food processing industries. The net change of −2,500 jobs included downturns in meat, dairy, and bakery processing, which were only partially offset by employment increases in poultry processing. Changing consumer tastes at the national level may account for the employment shifts within food and kindred products. Health concerns and changes in the age mix of the population have reduced consumption of red meat and certain dairy items. Poultry, on the hand, now represents one-third of all meat consumed in the U.S. compared to one-fourth in the late 1970s. Declines in other subcategories of food processing also occurred from 1981 to 1984, but detailed state data that would allow identification of these areas are not available.

The intense import competition which has adversely affected employment in leather and textile production is apparent in the negative industrial mix components of both industries. The textile mill industry suffered a net loss of 8,000 jobs from 1981 to 1984, although the state still has a locational advantage as indicated by the positive competitive share component. Textile mill employment as a proportion of total state jobs also declined from 5.2 percent to 4.3 percent during the same three-year period. In an effort to meet overseas competition, the textile industry in the U.S. has made capital investments in labor-saving devices which may mean permanent job losses in this sector even if the industry overcomes the current problem of cheaper imports.

In spite of strong competition within the U.S. apparel manufacturing industry because of large numbers of both domestic producers and foreign imports, Georgia's employment in apparel and other textile products grew by 2,600 jobs. Competitive share and national growth offset a strongly negative industrial mix component. The combination of competitive share and national growth was also responsible for 1,300 additional jobs in paper and allied products. Of all nondurable goods industries, employment in printing and publishing registered the largest increases, with 6,000 jobs added since 1981. Although competitive share accounted for 70 percent of this increase, national growth across all industries and the strength of the printing and publishing industry also contributed to expansion. Within the next few years, technological advances in the printing industry nationwide should lead to improvements in productivity but without a proportionate increase in employment. The state's competitive advantage in the manufacture of chemicals, along with growth across all industries at the national level, added 1,500 jobs to the state's economy.

Transportation, Communication, and Public Utilities. While growing slowly at the national level, the state's transportation, communication, and public utilities sector added another 9,600 jobs. Slightly more than 80 percent of this increase is attributable to

transportation alone. The positive impact of the competitive share component reflects the increasing importance of Atlanta as a regional transportation center.

Trade. Employment in the state's retail trade sector grew at a rate well above total job growth, with a 19.6 percent increase in retail trade compared to 11.8 percent for all industries. Registering a net increase of 68,700 jobs, retail trade comprised 27 percent of total new jobs in the state. Jobs in wholesale trade grew 17 percent from 1981 to 1984, adding 27,500 jobs to the state's economy. Competitive share was the dominant factor in the strong growth of both retail and wholesale trade employment.

Finance, Insurance, and Real Estate. Although this sector remains a relatively small proportion (5.2 percent) of total state employment, it was responsible for 14,200 additional jobs between 1981 and 1984. The Atlanta metropolitan area accounted for 92 percent of these new positions.

Services. One of the most rapidly growing sectors of the state's economy, services employment increased 22.4 percent over the past three years. The 80,600 new jobs accounted for 31 percent of all employment growth. Although the competitive share component was the single most important factor in the growth of services, national growth across all industries and industrial mix were also positive influences. The contribution of the industrial mix component reflects the fact that the U.S. economy is shifting away from a goods-producing base toward other areas such as services, retail trade, and finance, insurance, and real estate.

Government. In contrast with government employment at the national level which declined .4 percent, Georgia's government sector grew 2 percent from 1981 to 1984. The net increase of 8,500 jobs was about evenly divided between federal and state and local subsectors. Both national growth and competitive share components contributed to the overall increase and offset a negative industrial mix. In the case of government employment, particularly the armed forces, a positive competitive share may not reflect traditional locational advantages such as lower taxes or highly trained workers. Instead, other factors such as political decisions made at the national level may result in a state receiving more than its fair share of government employment.

CONCLUSION

The past two years were a period of solid economic recovery for both the U.S. and Georgia. The state's employment growth from 1981 to 1984 was much stronger than that of the U.S., 11.8 percent for Georgia compared to 3.3 percent for the nation as a whole. National economic recovery and growth produced 28 percent of Georgia's employment increase; more jobs should be added to the state as the U.S. economy expands. However, the dominant force behind Georgia's growth between 1981 and 1984 was the competitive share component. The state's locational advantages include abundant raw materials and water supplies, relatively low taxes and cost of living, attractive wage rates, and a favorable climate. Access to Atlanta as a major regional center for transportation and other business activity is an additional positive factor for the state as a whole. While the impact of national and international economic developments on Georgia cannot be predicted with certainty, it is reasonable to assume that these competitive advantages will continue to support the state's relative economic position in the future.

Economic Recovery and Employment in Georgia

Suzanne A. Lindsay

In both Georgia and the U.S., nonagricultural employment and one of its most cyclically sensitive sectors, manufacturing, expanded substantially during 1984. Preliminary annual averages released by the Bureau of Labor Statistics show that U.S. total nonagricultural employment passed its pre-recession peak of 1981; national manufacturing employment, although recovering strongly from its 1982 level, had yet to reach its 1981 level. Georgia's nonagricultural employment growth was even more rapid; its 1981 annual average level was recovered in 1983, and employment expanded strongly during 1984 (Figure 1). The state's manufacturing employment also grew well past its pre-recession peak during the year. The health of the manufacturing sector is important to Georgia's overall economy; in 1983, it contributed an estimated $7.5 billion (22.5 percent) to the state's real gross state product, as measured in 1972 dollars.

From 1973 to 1984, the state and nation experienced somewhat different manufacturing employment trends. The two years, with the mid-decade peak year, 1979, are suitable for comparison in that each was a year of economic expansion. Manufacturing employment for the state and nation peaked cyclically in 1973 and again in 1979 and 1981; nonagricultural employment (on an annual average basis) continued to grow in 1974. By 1984, both employment totals were expanding vigorously.

The timing and degree of change in employment over the eleven-year period varied somewhat, with the following trends apparent:

—Georgia's nonagricultural employment growth rate was substantially higher than that for the U.S. as a whole.

—Growth was uneven during the period, with annual average rates of growth almost the same for the U.S. and Georgia from 1973 to 1979, but much lower for the nation for 1979-1984.

—Manufacturing's share of total nonagricultural employment diminished sharply at both levels, but by 1984, it still provided a larger part of overall employment for Georgia than for the U.S.

—Employment in durable goods manufacturing grew substantially in the state, but declined in the U.S.

—Employment in nondurable goods manufacturing remained well below the annual average levels of 1973, 1979, and 1981 for the U.S., although recovery began in 1984. Georgia's 1984 employment in the subsector passed the 1973 level and approached that of 1979; it more than regained ground lost since 1981. The proportion of nonagricultural workers employed in nondurable manufacturing declined from 1973 to 1984, but remained much higher for Georgia than for the U.S.

—Production worker employment, a segment of manufacturing employment very responsive to cyclical change, began recovering in Georgia in 1983 and nationally in 1984. For both economies, production worker employment remained well below its 1979 peaks. Annual average growth rates for manufacturing production workers grew less, or declined more, than comparable rates for all manufacturing employment. Georgia's growth rates came closer to matching overall levels than did those for the nation.

NONAGRICULTURAL EMPLOYMENT GROWTH

Annual average employment estimates developed from establishment data by the U.S. Bureau of Labor Statistics show that U.S. total nonagricultural employment grew from 76,790,000 in 1973 to 94,166,000 in 1984 (Table 1). Over the same period, Georgia's nonagricultural employment expanded from 1,799,700 to 2,457,100 (Table 2). Year by year, employment peaked in 1974, declined sharply in the 1975 recession, expanded rapidly from 1976 to 1979, and grew more slowly through 1981. Back-to-back recessions produced the employment trough of 1982; the 1983 recovery accelerated in 1984. Georgia's nonagricultural employment followed a similar pat-

Figure 1
Total Nonagricultural Employment, U.S. and Georgia, 1972—1984
(Millions)

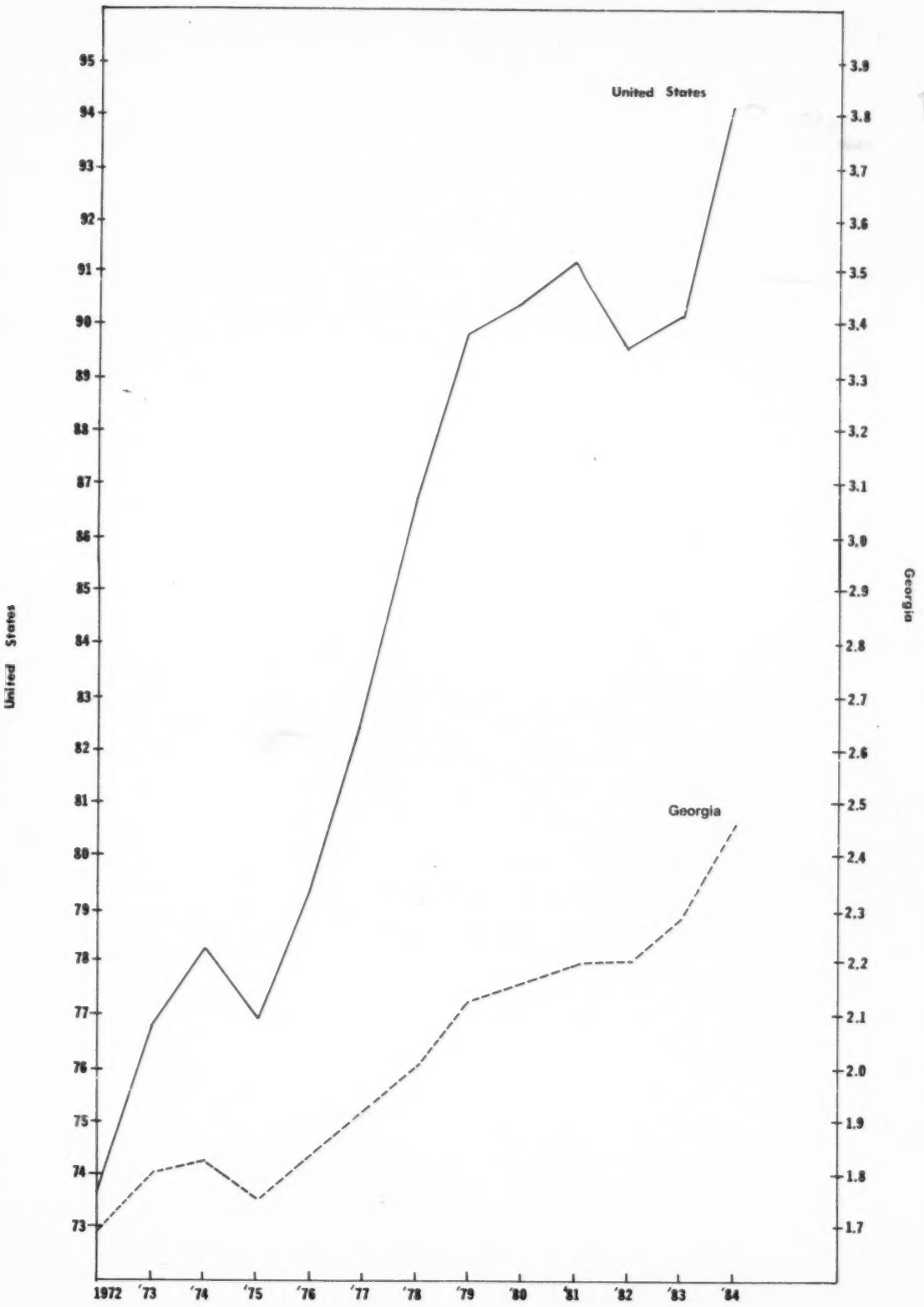


TABLE 1

United States Nonagricultural and Manufacturing
Employment and Production Workers, by Major Sector, 1972-1983
(000s)

Year	Total Nonag. Employment	Manufacturing Employment			Manufacturing Production Workers		
		Total	Durable	Nondurable	Total	Durable	Nondurable
1972	73675	19151	11049	8102	14045	8051	5993
1973	76790	20154	11891	8262	14834	8728	6107
1974	78265	20077	11925	8152	14638	8662	5976
1975	76945	18323	10688	7635	13043	7557	5485
1976	79382	18997	11077	7920	13638	7914	5724
1977	82471	19682	11597	8086	14135	8307	5828
1978	86697	20505	12274	8231	14734	8805	5929
1979	89823	21040	12760	8280	15068	9110	5958
1980	90406	20285	12187	8098	14214	8442	5772
1981	91156	20170	12109	8061	14020	8294	5727
1982	89556	18781	11039	7741	12742	7311	5431
1983[P]	90138	18497	10774	7724	12581	7151	5430
1984[P]	94166	19589	11635	7954	13456	7846	5610

[P]Preliminary.

Source: U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings, United States, 1909-78 (Bulletin 1312-11, July 1979, pp. 50-51, 56-57, 441-442, for 1972-76 data); Supplement to Employment and Earnings, United States, 1904-78, (July 1984), pp. 22-23, 155 (1977-83 data); Employment and Earnings (January 1985).

TABLE 2

Georgia Nonagricultural and Manufacturing
Employment and Production Workers, by Major Sector, 1972-1983
(000s)

Year	Total Nonag. Employment	Manufacturing Employment			Manufacturing Production Workers		
		Total	Durable	Nondurable	Total	Durable	Nondurable
1972	1705.1	478.5	159.5	319.0	388.1	125.4	262.7
1973	1749.7	496.1	167.1	329.0	399.3	130.4	268.9
1974	1827.3	483.3	159.9	323.4	388.5	124.9	263.6
1975	1755.7	439.3	139.0	300.3	340.4	106.4	234.0
1976	1835.9	476.3	152.8	323.5	374.1	118.0	256.1
1977	1917.5	494.1	162.3	331.8	380.2	123.9	256.2
1978	2050.1	515.8	176.7	339.1	395.5	132.6	262.9
1979	2127.5	528.5	184.9	343.6	410.9	140.8	270.1
1980	2159.4	519.2	181.0	338.3	397.1	137.4	259.7
1981	2198.6	524.6	186.1	338.5	398.5	137.5	260.9
1982	2201.5	500.3	178.6	321.7	376.4	129.4	247.0
1983	2279.5	511.1	185.4	325.7	383.5	135.3	248.2
1984[P]	2457.1	545.4	207.2	338.3	412.6	154.5	258.1

[P]Preliminary estimates.

Source: U.S. Department of Labor, Bureau of Labor Statistics, Employment, Hours, and Earnings, States and Areas, 1939-82, Vol. 1, January 1984 (1972-1979 data); Supplement to Employment, Hours, and Earnings, States and Areas, Data for 1980-83, August 1984; Employment and Earnings, January 1985; Georgia Department of Labor, Georgia Employment and Earnings by Industry, 1983-84, preprint, February 1985.

TABLE 3

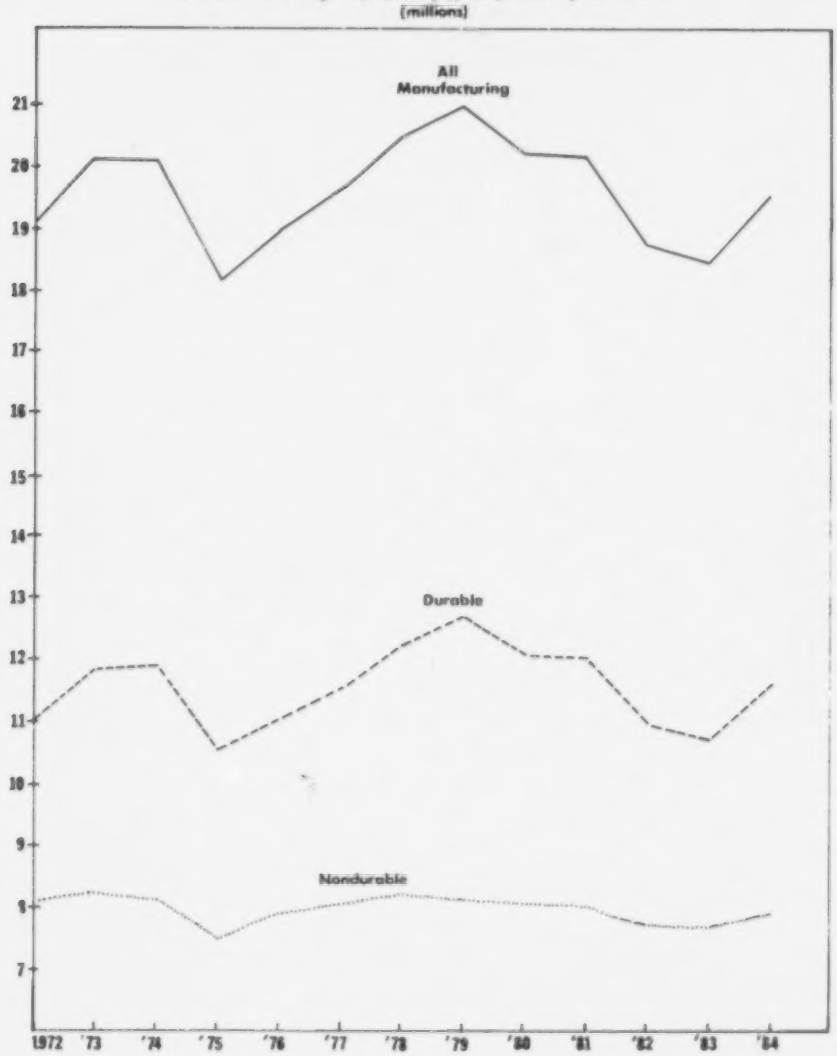
Annual Average Rates of Growth for Total Nonagricultural
and Manufacturing Employment, U.S. and Georgia, 1973-1984

Sector	1973-1979		1979-1984		1973-1984	
	U.S.	Georgia	U.S.	Georgia	U.S.	Georgia
Total Nonagricultural Employment	2.65	2.81	0.95	2.92	1.87	2.87
Manufacturing						
Total Employment	0.72	1.06	-1.42	0.61	-0.26	0.87
Production Workers	0.26	0.48	-2.24	0.08	-0.88	0.30
Durable Goods						
Total Employment	1.18	1.70	-1.83	2.30	-0.20	1.97
Production Workers	0.72	1.29	-2.94	1.87	-0.96	1.55
Nondurable Goods						
Total Employment	0.04	0.73	-0.80	-0.31	-0.34	0.25
Production Workers	-0.41	0.07	-1.20	-0.90	-0.77	-0.37

[P]Preliminary.

Source: Based on data from the U.S. Department of Labor, Bureau of Labor Statistics, and Georgia Department of Labor.

Figure 2
U.S. Manufacturing Employment, by Major Sector, 1972—1984
(millions)



tern, although growth never completely stopped in 1982.

Georgia's annual average rate of growth in nonagricultural employment for the eleven-year period, at 2.9 percent, was more than half again as high as the U.S. rate, 1.9 percent (Table 3). Within the period, expansion was uneven. From 1973 to 1979, the state's growth rate (2.8 percent) slightly exceeded that for the U.S. (2.7 percent). Between 1979 and 1984, however, Georgia's rate of 2.9 percent was more than three times greater than the U.S. rate, .95 percent. Since the U.S. estimates reported here are based on 1983 benchmarks rather than the 1984 benchmarks available for Georgia data, they may somewhat understate relative national growth, but the differences between rates for Georgia and the nation remain substantial and in the state's favor.

MANUFACTURING EMPLOYMENT

While total nonagricultural employment was growing over 1973-1984, U.S. manufacturing employment fell sharply during 1975, and again during 1980-82 (Figure 2); by 1984, it stood at an annual average of 19,589,000, not quite the level of 1973 (20,154,000). As a percentage of total nonagricultural employment, U.S. manufacturing employment dropped from 26.2 percent in 1973 to 20.8 percent in 1984, up slightly from 1983 levels (Table 4). In Georgia, total manufacturing employment expanded from an annual average of 496,100 in 1973 to 545,400 in 1984, with recovery from the 1981-82 recessions in 1983 and rapid growth during 1984 (Figure 3). The sector's relative importance declined, however: manufacturing made up 27.6 percent of the state's nonagricultural employment in 1973, but only 22.2 percent in 1984. Even with a declining

TABLE 4

Total Manufacturing Employment as a Percentage of Total Nonagricultural Employment, U.S. and Georgia, Selected Years

	All Manufacturing		Durables		Nondurables	
Year	U.S.	Georgia	U.S.	Georgia	U.S.	Georgia
1972	26.0	28.1	15.0	9.4	11.0	18.7
1973(P)	26.2	27.6	15.5	9.3	10.8	18.3
1975(T)	23.8	25.0	13.9	7.9	9.9	17.1
1979	23.4	24.8	14.2	8.9	9.2	16.2
1980(P,T)	22.4	24.0	13.5	8.4	9.0	16.7
1981(P)	22.1	23.9	13.3	8.5	8.8	15.4
1982(T)	21.0	22.7	12.3	8.1	8.6	14.6
1983prel.	20.5	22.4	12.0	8.1	8.6	14.3
1984prel.	20.8	22.2	12.4	8.4	8.4	13.8

Notes: Subtotals may not add to totals because of rounding.
(P) and (T) denote a year containing the peak and/or trough, respectively, of the U.S. business cycle, as established by the NBER.

prel. Preliminary

Source: Based on data from the U.S. Department of Labor, Bureau of Labor Statistics, and Georgia Department of Labor.

employment share, manufacturing continued to represent a higher proportion of overall employment for Georgia than for the U.S.

Annual average growth rates for 1973-1984 reflect divergent state and national trends in manufacturing employment. The sector lost ground in the U.S., with negative rate of −.26 percent. Although the comparable rate for Georgia was well below its annual average rate of growth in all nonagricultural employment, at .87 percent it represented continued growth rather than loss. Within the period, growth rates were .72 percent for the U.S. and 1.1 percent for Georgia from 1973 to 1979. During 1979-1984 U.S. losses in manufacturing employment were severe (at an annual average rate of −1.4 percent), and growth in Georgia slowed to an annual average rate of .63 percent.

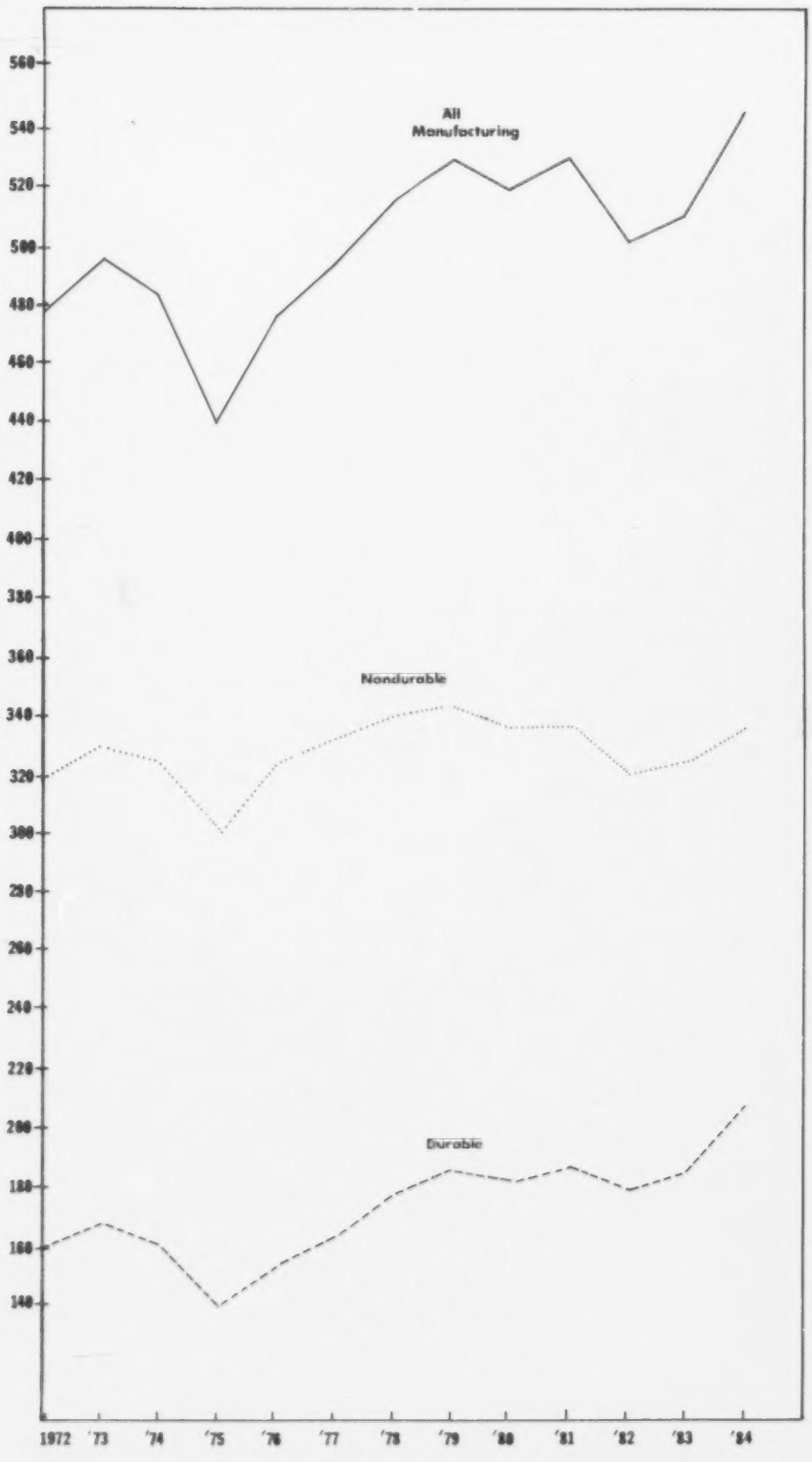
DURABLE VS. NONDURABLE MANUFACTURING EMPLOYMENT

In the subsectors of manufacturing, durable and nondurable goods industries, state and national trends for 1973-1984 were alike in some respects but diverged in others. In 1984, the U.S. annual average employment in durable manufacturing remained (at 11,635,000) slightly below its 1973 level (11,891,000), although an average of almost a million jobs were added between 1983 and 1984. U.S. nondurable manufacturing employment, standing at 7,954,000 in 1984, had recovered somewhat from its recession lowpoint, but remained below its 1973 level (8,262,000).

U.S. durable manufacturing workers represented 15.5 percent of annual average nonagricultural employment in 1973, but only 12.4 percent eleven years later. National nondurable manufacturing also declined from 10.8 percent of all nonagricultural employment in 1973 to 8.4 percent in 1984. The 1984 percentages represented a slight increase in the durable manufacturing share from 1983, but a continued decline for nondurable manufacturing's percentage.

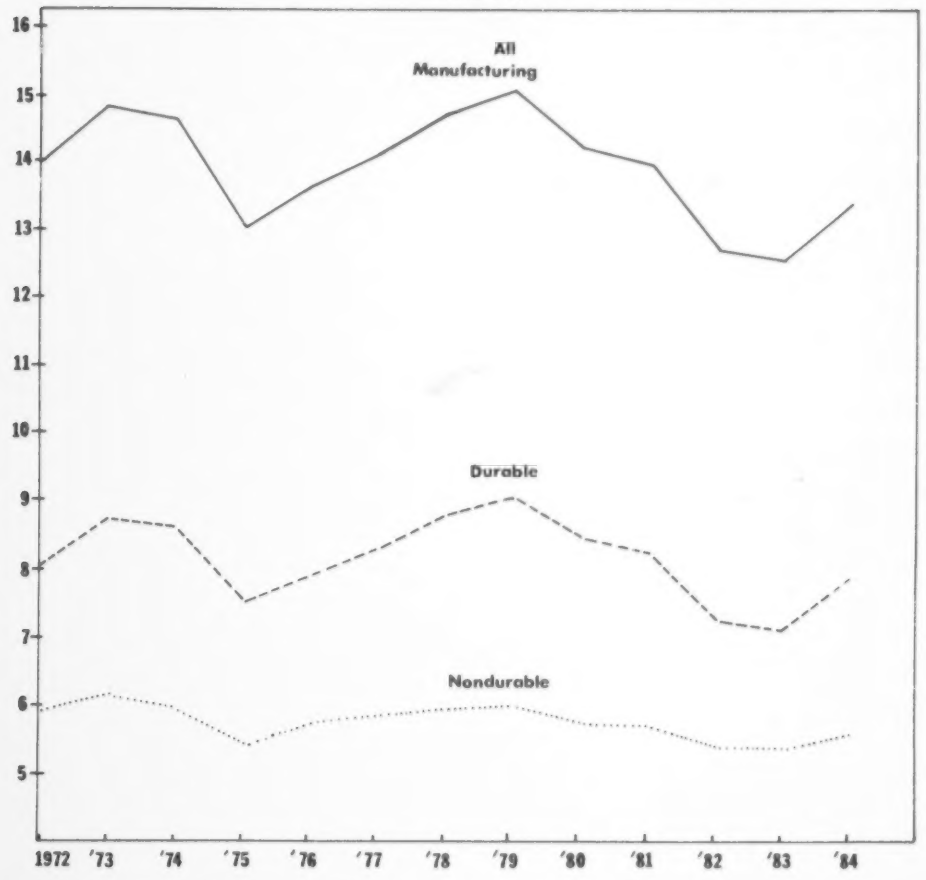
Georgia's durable manufacturing employment showed different trends. In 1973, the annual average employment (167,100) for the subsector was a smaller proportion (9.3 percent) of all nonagricultural employment in the state than the comparable total was for the U.S. By 1984, such employment had expanded to an annual average of 207,200, but its share of all nonagricultural employment was only 8.4 percent. Similarly, the state's nondurable manufacturing employment grew in absolute numbers over the eleven years (from an annual average of 329,000 in 1973 to 338,000 in 1984), but lost employment share (from 18.3 percent of all nonagricultural employment in 1973 to 13.8 percent in 1984). For the subsectors, as for manufacturing in general, the declining share of total employment reflected the much greater growth of nonmanufacturing sectors, such as trade and services.

Figure 3
Georgia Manufacturing Employment, by Major Sector, 1972—1984
(Thousands)



Source: See Table 2.

Figure 4
U.S. Manufacturing Production Workers, by Major Sector, 1972—1984
(Millions)



Source: U.S. Bureau of Labor Statistics

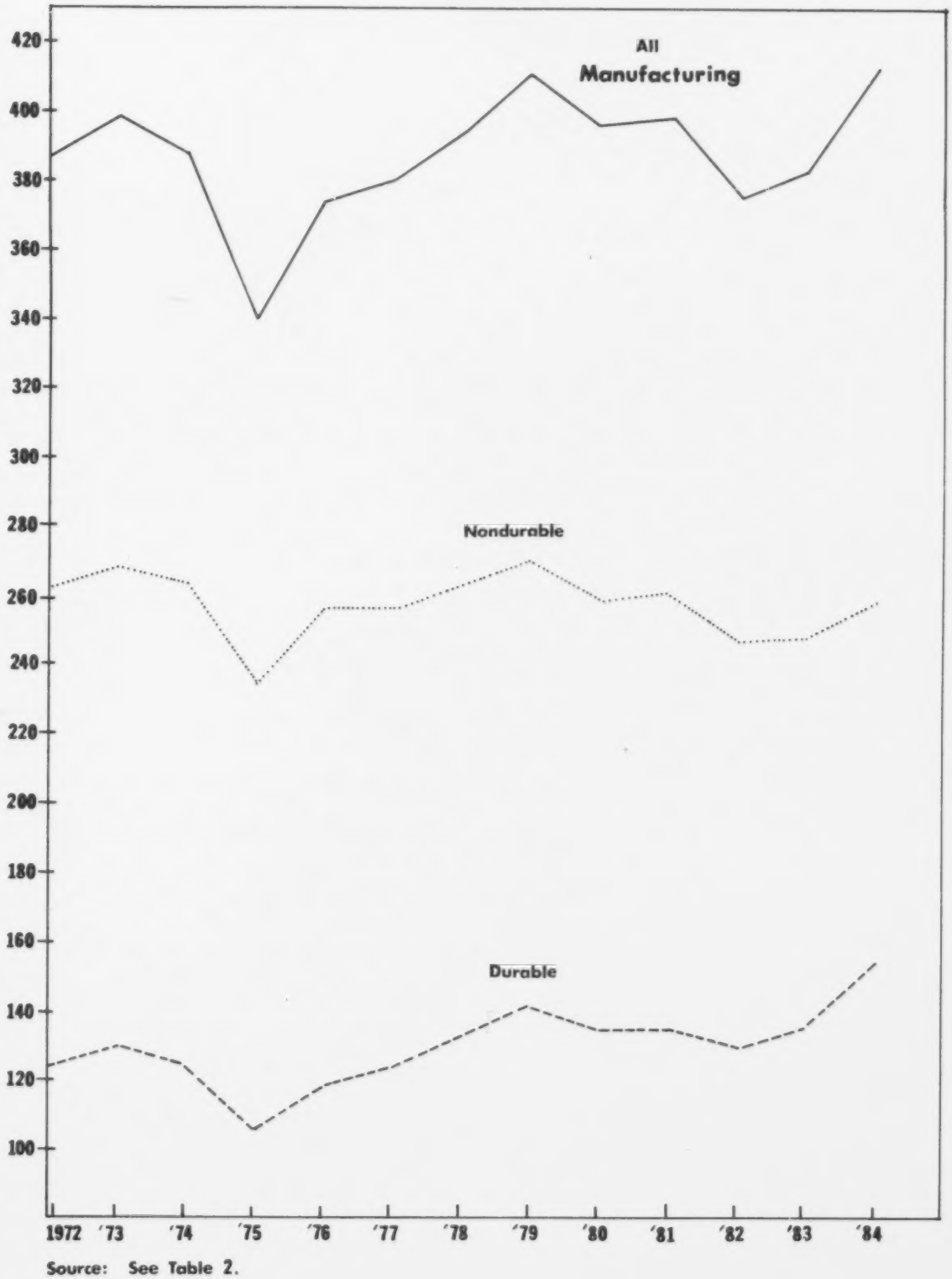
Annual average rates of growth for the two manufacturing subsectors were positive for Georgia (1.9 percent for durables, 0.3 percent for nondurables) over 1973-1984, but negative for the U.S. (−0.2 percent for durables, −0.3 percent for nondurables). Both subsectors grew during the first half of the period, although U.S. nondurable manufacturing employment was almost static. During 1979-1984, state and national trends differed. In durable manufacturing, Georgia's employment expanded at an annual average rate of 2.3 percent, versus a negative rate, −1.8 percent, for the U.S. Nondurable manufacturing employment lost ground, however, at an annual average rate of −0.8 percent for the U.S. and −0.3 percent for Georgia.

PRODUCTION WORKERS' SHARE OF EMPLOYMENT

Production workers, the working supervisors and non-supervisory workers engaged in production operations or closely associated functions, make up a large part of total manufacturing employment. Because such workers often are more affected by cyclical and long-term changes than employees as a whole, changes in production worker employment help to show the impact of recent economic events upon both skilled and unskilled workers.

The annual average number of manufacturing production workers fell between 1973 and 1984 for the U.S., but rose for Georgia (Figures 4 and 5). At both levels, such employment composed a substantial (but declining percentage) share of total nonagricultural employment, and made up a majority of all manufacturing employees (Table 5). Production worker employment was more important for Georgia than for the U.S. In 1973, production workers were 19.3 percent of total agricultural employment for the U.S. and 22.2 percent for Georgia, but by 1984 the percentages had fallen to 14.3 percent for the nation and 16.8 percent for the state. U.S. production workers made up 73.3 percent of the nation's total manufacturing employment in 1973, but 68.7 percent eleven years

Figure 5
Georgia Manufacturing Production Workers, by Major Sector, 1972—1984
(Thousands)



Source: See Table 2.

TABLE 5

Manufacturing Production Workers as a Percentage of
Total Nonagricultral Employment and Total Manufacturing Employment,
U.S. and Georgia, Selected Years

	Manufacturing Production Workers as:				Manufacturing Durable Production Workers as:				Manufacturing Nondurable Production Workers as:			
	% Nonag. Employment		% Total Manufacturing Employment		% Nonag. Employment		% Total Manufacturing Employment		% Nonag. Employment		% Total Manufacturing Employment	
Year	U.S.	Ga.	U.S.	Ga.	U.S.	Ga.	U.S.	Ga.	U.S.	Ga.	U.S.	Ga.
1972	19.1	22.8	73.3	81.1	10.9	7.4	42.0	26.2	8.1	15.4	31.3	54.9
1973(P)	19.3	22.2	73.6	80.5	11.4	7.2	43.3	26.3	8.0	14.9	30.3	54.2
1975(T)	17.0	19.4	71.2	77.5	9.8	6.1	41.2	24.2	7.1	13.3	29.9	53.3
1979	16.8	19.3	71.6	77.7	10.1	6.6	43.3	26.6	6.6	12.7	28.3	51.1
1980(P,T)	15.7	18.4	70.1	76.5	9.3	6.4	41.6	26.5	6.4	12.0	28.5	50.1
1981(P)	15.4	18.1	69.5	76.0	9.1	6.3	41.1	26.2	6.3	11.9	28.4	49.7
1982(T)	14.2	17.1	67.8	75.2	8.2	5.9	38.9	25.9	6.1	11.2	28.9	49.4
1983	14.0	16.8	68.0	75.0	7.9	5.9	38.7	26.5	6.0	10.9	29.4	48.6
1984prel.	14.3	16.8	68.7	75.6	8.3	6.3	40.1	28.3	6.0	10.5	28.6	47.3

Notes: The symbols (P) and (T) denote years containing a peak and/or trough, respectively, of the U.S. business cycle, as established by the NBER.
Subtotals may not add to totals because of rounding.

prel. Preliminary

Source: Based on data from the U.S. Department of Labor, Bureau of Labor Statistics, and Georgia Department of Labor.

later. Georgia's comparable percentages were 81.1 percent in 1973 and 75 percent in 1984.

The similarity of trends in durable and nondurable manufacturing production worker employment to those for total manufacturing employment is to be expected, given the weight production workers represent in the whole. Production workers in durable goods manufacturing represented a higher proportion of both total nonagricultural and all manufacturing employment for the U.S. than for Georgia. The sector's overall share of employment declined nationally between 1973 and 1984, but rose in Georgia. Nondurable manufacturing production workers, in contrast, made up a much larger proportion of nonagricultural and manufacturing employment in Georgia than in the U.S. at both the beginning and end of the period.

Annual average rates of growth for manufacturing and its subsectors show that Georgia's production worker employment grew relatively faster or declined relatively less than that of the U.S. In general, production workers in durable goods manufacturing industries fared much better than those in nondurable goods industries, which lost employment between 1973 and 1984. Georgia's loss, at −0.4 percent, was less than the U.S. annual average rate (−0.8 percent). The state's production worker losses occurred despite an annual average expansion of 0.3 percent for total employment in the subsector. In contrast, durable goods production worker employment in Georgia grew at an annual rate of 1.6 percent between 1973 and 1984, whereas the U.S. lost employment at an annual average rate of −0.96 percent. The loss was concentrated in 1979-84; during the first half of the period, durable goods production worker employment growth was positive, although lower than the growth in employment totals.

IMPLICATIONS OF CHANGE

Absolute employment numbers and annual average rates of growth for manufacturing reflect several factors. The influence of recessions and recoveries is clear. The recession of 1975 was responsible for a severe decline in employment in all categories, but subsequent recovery left the 1979 employment peaks well above those of 1973. Prolonged recession during the early 1980s was largely offset by renewed growth in 1983 and 1984. Other factors such as the loss of markets to foreign competition and technological change also affected manufacturing employment. With such powerful forces working toward the elimination of non-competitive firms and greater productive efficiency among those surviving, it is not surprising that production workers have lost relatively more jobs, or gained relatively fewer, than manufacturing employees in general. One result has been an increase in displaced workers, those whose jobs have literally disappeared.

The problem of dislocated workers brings attention to the uneven impact of change upon manufacturing employment. Both total employment and production worker employment grew in 1984, and Georgia remains in a favorable position compared to the U.S. as a whole, but overall statistics give little insight into the drastically different conditions faced by individual industries. Future articles, therefore, will examine the recent histories of some important Georgia industries, and their prospects for the future.

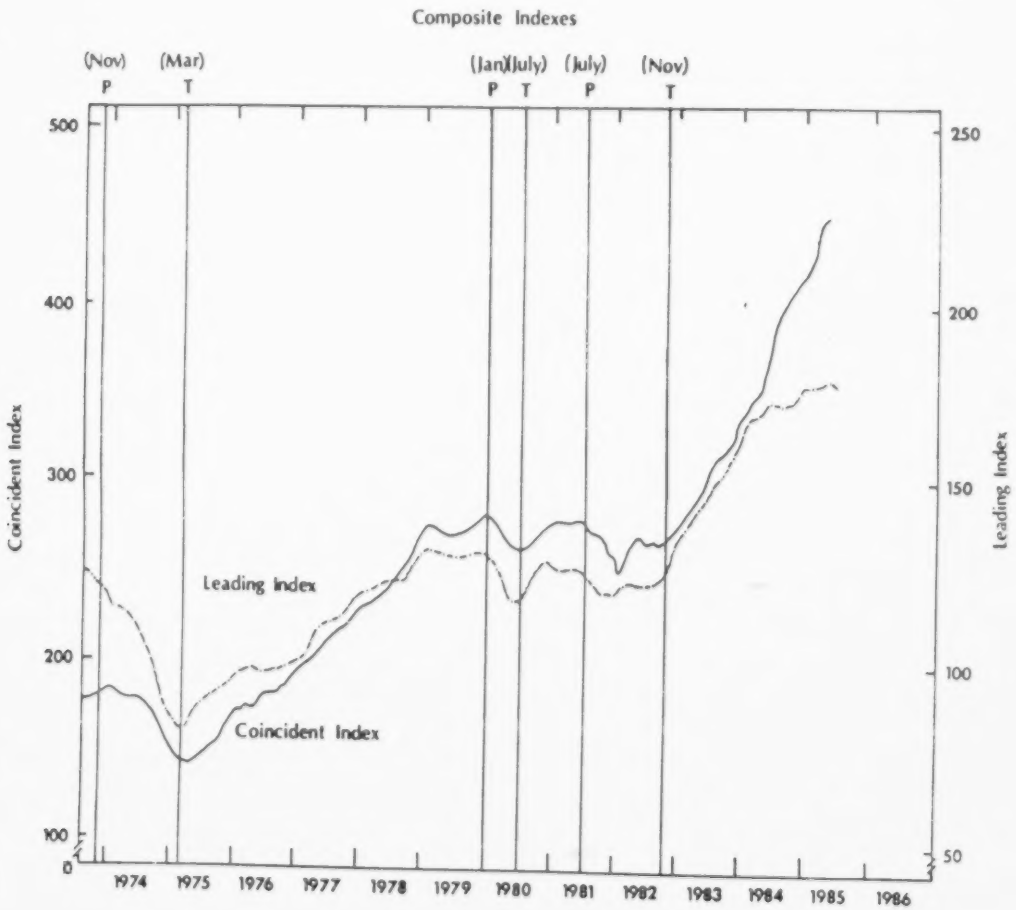
Composite Indexes of Leading and Coincident Georgia Economic Indicators

Economic activity in the state moderated in April as the coincident indicator continued to rise and the leading indicator declined slightly. The 0.8 percent increase in the coincident indicator was primarily caused by a strong rise in seasonally adjusted real retail sales amounting to 5.1 percent. This growth was enough to offset the mild declines in adjusted real manufacturing weekly earnings and nonagricultural employment of 0.6 and 0.2 percent, respectively. The drop in nonagricultural employment was the first in four months.

The small decline in the leading indicator followed a six-month expansion of 3.1 percent. Seasonally adjusted initial unemployment claims rose by 26.7 percent while new housing permits posted a 3.2 percent drop, the first decrease in four months. The help wanted advertising component also fell for the second straight month, this time by 9.4 percent.

In May, the coincident indicator increased by only 0.2 percent, while the leading indicator dropped by 1.1 percent. The gain in the coincident indicator occurred despite a 2.1 percent decline in seasonally adjusted real retail sales which, in turn, was offset by increases in real manufacturing weekly earnings and nonagricultural employment of 0.1 and 0.3 percent, respectively.

A decrease of 8.8 percent in seasonally adjusted new housing permits was responsible for the decline in the leading indicator. Though housing permits were down for the second straight month, the remaining components of the leading indicator were favorable. Seasonally adjusted initial unemployment claims fell by 3.1 percent, while the help wanted advertising index rose by 1.9 percent.



GEORGIA BUSINESS STATISTICS

SERIES	MAY 1985	APR 1985	MAR 1985	MAY 1984
Georgia Leading Indicators Index[1] (1969=100)	166.63	168.55	170.13	165.35
Georgia Coincident Indicators Index[1] (1969=100)	438.24	437.27	436.68	377.63
Nonagricultural Employment[2] (thousands)	2589.6[p]	2578.8[r]	2563.7[r]	2432.9
Manufacturing Employment[2] (thousands)	541.9[p]	544.7[r]	546.1[r]	544.5
Average Weekly Earnings, Manufacturing[2] (dollars)	317.97[p]	317.98[r]	321.55[r]	305.11
Help Wanted Advertising, Atlanta Index[3] (1967=100)	276	271	299	258
Taxable Retail Sales[4] ($ millions)	3195.2	3172.3	3031.5	2993.5
Building Permits[5]				
Residential Housing Units, Private (thousands)	6.4	7.0	6.7	7.0
Value of Residential Housing ($ thousands)	294669	314485	289854	283906
Value of Nonresidential Construction ($ thousands)	169563	181231	152734	165266
Industrial Buildings	54878	11555	12968	16706
Office, Bank and Other Professional Buildings	28512	62403	42259	51426
Stores and Other Merchantile Buildings	25647	35936	29412	25864
Other	60526	71337	68095	70727
Consumer Price Index[6] (CPI-U, all items)				
South U.S. (December, 1977 = 100)	-	172.4	-	167.3[a]
South/Population more than 1,250,000	-	173.7	-	166.3[a]
South/Population 385,000 to 1,250,000	-	172.2	-	168.2[a]
South/Population 75,000 to 385,000	-	171.6	-	166.9[a]
South/Population 2,500 to 75,000	-	172.6	-	168.1[a]
Atlanta (1967=100)	-	324.6	-	311.1[a]
Prices Received by Farmers, Georgia Index[7] (1977=100)	120	120[r]	124	136
	1984:IV	1984:III	1984:II	1984:I
Total Personal Income[8] ($ millions)	69367	67777	65772	64199

---

[1] Georgia Economic Forecasting Project, Division of Research, College of Business Administration, University of Georgia. Initial monthly values subject to revision.

[2] Labor Information Systems, Georgia Department of Labor

[3] Series published by The Conference Board, Inc.

[4] Derived by the Division of Research, College of Business Administration, University of Georgia, from data of the Sales and Use Tax System, Georgia Department of Revenue

[5] U.S. Department of Commerce, Bureau of the Census. 1984 data adjusted for comparability with 17,000 place universe

[6] U.S. Department of Labor, Bureau of Labor Statistics, Southeastern Regional Office

[7] Georgia Department of Agriculture, Georgia Crop Reporting Service

[8] U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System

[r] Revised

[p] Preliminary

[a] April, 1984

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ALBERT W. NIEMI, JR.
DEAN

DIVISION OF RESEARCH

ALBERT W. NIEMI, JR.
Director

LORENA M. AKIOKA
Editor

PHILLIP A. CARTWRIGHT
Director
Economic Forecasting

SUZANNE A. LINDSAY
Data Specialist

MARY EVANS
Administrative Secretary

JOHN BASKIN
Research Assistant

RICHARD LORD
Research Assistant

JANE DIMMOCK
Graphics

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Economic Outlook 1985-1986

Phillip A. Cartwright

The most recent batch of economic numbers constitutes a mixed bag. A look at the current statistical scoreboard indicates that the U.S. economy is continuing to grow, albeit slowly and erratically. According to the Commerce Department's most recent report on real gross national product, the economy grew at a 2 percent annual average rate in the second quarter, following a meagre .3 percent growth rate recorded for the first quarter of the year.

THE NATIONAL ECONOMY

At this time, activity in both the consumer and housing markets has weakened somewhat. According to the Commerce Department, retail sales rebounded .4 percent in July following the record 1.4 percent drop in June. Consumer spending rose a moderate .4 percent in July.

Sales of new single-family homes slipped .1 percent in June. This figure suggests the possibility that the sluggishness of the economy is offsetting the stimulus from lower mortgage rates. While the figures do not give evidence that activity in consumer markets is collapsing, we can be little more than guardedly optimistic.

Clearly there are pronounced imbalances between economic sectors. The Index of Industrial Production and the employment figures are two of the several available indicators that show the industrial sector of the economy is not participating fully in the nation's aggregate economic prosperity. Industrial output advanced a modest .2 percent in July following similar increases of .2 and .3 percent in May and June, respectively. While these data are encouraging signs that the manufacturing sector is picking up, the most recent advance places the industrial production index only 1.4 percent above its level one year earlier.

The July unemployment rate remained at 7.3 percent for the sixth consecutive month. Nonagricultural employment rose 243,000, but the month-over-month increase is largely attributed to the service sector. Manufacturing employment declined slightly.

The national outlook for 1985 calls for gross national product to grow in the 2.5 to 3 percent range. In real terms, growth is expected to drop into a neighborhood around 2.5 percent in 1986. Inflation will remain under control, staying close to 4 percent over the next two years.

The recent decline in interest rates is largely attributable to slower economic growth and the easing of monetary policy by the Federal Reserve. It now appears that, on average, interest rates at both ends of the yield curve will remain relatively stable during the second half of 1985 and 1986.

The outlook for budget deficits and tax reform tend to cloud the outlook. As of this writing, the House-Senate accord shows that some spending reductions will be enacted for fiscal year 1986, but the $55.5 billion deficit reduction will not lead to deficits below $140 billion over the next three years. Despite the perceived broad support for tax reform, many details must be resolved beofre a reform bill emerges. It is unreasonable to expect much tax reform this year.

THE GEORGIA ECONOMY

Georgia's economy continues to grow, although the state is not immune from the problem of disparities between industrial sectors. The most recent employment figures show the state's unemployment rate at 6.3 percent, one full percentage point below the national figure. A comparison of the nonagricultural employment figures in May, the most recent month available, with those of May 1984, shows a gain of nearly 6.5 percent. The overall number, however, masks the fact that the manufacturing sector actually lost jobs, while employment in nonmanufacturing grew by 8.4 percent. While the numbers for durable good producing industries have increased by 7,400, employment in nondurable goods has dropped by 10,000. Most of this decline is accounted for by losses in the textile mill products industry group.

Overall, the forecast for 1985 shows nonagricultural employment advancing by about 6.5 percent. At this time, we expect the growth rate to fall closer to 3 percent in 1986.

After adjustment for inflation, personal income in the state is expected to rise by about 5.8 percent in 1985, following the 7.8 percent change in 1984. Coincident with the employment outlook, the growth in personal income is expected to decline further in 1986. The farm income situation is expected to improve somewhat over the forecast horizon, but much will depend on policies enacted at the national level.

As the growth of real personal income slows, activity in retail markets is forecast to decline slightly. The growth in real taxable sales during 1985 and 1986 is expected to be about one-half the near 10 percent rate recorded in 1984. The outlook for housing permits shows continuing growth over the next two years, although the rates tend to decline and become relatively flat.

Overall, the national short-term outlook indicates that, relative to the first two quarters of the year, the pace of economic activity will accelerate somewhat over the months ahead. The underlying fundamentals point to continued erratic economic growth which has been the pattern over the past several months. The forecast for Georgia shows a decline in the economy's growth rate when judged against the figures posted over the last two years. Nevertheless, the average aggregate performance of the state's economy is expected to outperform that of the nation in both 1985 and 1986.

Is There Growth Outside Atlanta?

Suzanne A. Lindsay

Is there growth outside Atlanta? Using data for 1970 and the early 1980s, investigators have given somewhat different answers. William H. Berentson ("Patterns and Processes of Regional Development: Georgia 1970-1980," upcoming in Georgia Business and Economic Conditions) examined Census figures on population, employment, and income; he found increased growth in many non-metropolitan areas, but particularly rapid growth in suburban (versus central city) portions of metropolitan areas. Changes in population, personal income and its sources, labor force participation, and housing characteristics led Charles F. Floyd ("The 'Two Georgias' Problem," Georgia Business and Economic Conditions, March-April, 1985) to conclude that much of the state's growth has been centralized in the Atlanta Metropolitan Statistical Area (MSA) and that non-MSA counties have "many of the characteristics common to economically underdeveloped regions that are still growing toward a higher stage of development."

CHANGES IN THE SHORT RUN

Such studies use relatively long-run (a decade or better) measures; what of the recent past? Tracking short-run economic change in Georgia is complicated by a relative lack of current, detailed data that cover the state, MSAs, and counties. The Bureau of Economic Analysis' annual population, employment, and income estimates, for example, appear eighteen months after the year in question, and are revised at least twice thereafter. Detailed Census data are available only at ten-year intervals, with a lag of several years between collection and publication.

One source of current information does exist, however: monthly and annual average civilian labor force estimates prepared by the Georgia Department of Labor, in cooperation with the U.S. Bureau of Labor Statistics. The data must be used with caution; they are estimates, not actual counts. Monthly estimates may fluctuate widely, and the lack of an adequate county-level sample in the nationwide Current Population Survey (upon which statewide estimates are based) means that local area estimates are developed from a variety of sources and by varying statistical methods, depending on the size of the county and its inclusion in a MSA. Since historical relationships based on decennial census findings play a part in the process, estimates for intercensal years may not reflect the full effects of rapid economic change. There are no estimates of statistical error for individual counties, although statewide unemployment rates must not vary by more than plus or minus 10 percent (assuming a 6 percent rate) of the value established by the CPS. Minor changes at the county level therefore should not be emphasized; in counties with small labor forces, such shifts can result in large percentage changes even though the numerical change is slight.

Given such drawbacks, the labor force estimates remain an easily accessible indicator of general trends in employment and unemployment; using annual average data avoids some of the problems inherent in monthly estimates.

DEFINITIONS AND CONCEPTS

Estimates of an area's unemployment rate depend upon the values established for its civilian labor force and its components, unemployment and employment. The civilian labor force includes the total of all civilians aged 16 or over, classified as employed and unemployed. It is a residential concept, and as such requires the adjustment of any place-of-work data used in its estimation. Employment includes workers on nonagricultural payrolls, plus the estimated number of agricultural, self-employed, domestic, and unpaid family workers. Unemployment is calculated using a "building block" approach, combining estimates of persons last employed in industries covered by state unemployment insurance laws, those last employed in non-covered industries, and new entrants or re-entrants to the labor force.

Changes in employment and unemployment directly affect the civilian labor force (CLF) estimate, and in turn the unemployment rate, which represents unemployment as a percentage of the civilian labor force, by place of residence. As later discussion will show, changes in local area unemployment rates should be examined in the light of shifts in the labor force and its components, since several combinations of change in the CLF, employment, and unemployment are possible for a given shift in rates.

STATE UNEMPLOYMENT RATES, 1982-1984

Preliminary annual average unemployment rates for 1984, taken with revised data for 1982 and 1983*, indicate continuing economic improvement for Georgia and many of its counties. Regional patterns noted in earlier reports have persisted, although the contrast between areas has moderated.

Georgia's statewide unemployment rate dropped from an annual average of 7.8 percent in 1982, to 7.5 percent in 1983 and 6.0 percent in 1984 (Table 1). A combination of changes produced the drop of 1.8 percentage points between 1982 and 1984. Annual average employment grew by 5.7 percent and unemployment dropped by 20 percent, resulting in a civilian labor force increase of 3.7 percent. Most of the improvement occurred between 1983 and 1984, as economic recovery accelerated; 1984 annual average employment rose by 4.4 percent and unemployment dropped by over 17 percent, compared to averages for 1983.

Declines in unemployment and increases in employment were distributed unevenly between MSA and non-MSA counties. Table 1 indicates that the unemployment rate for all metropolitan counties dropped from 7 percent in 1982 and 1983 to 5.5 percent in 1984. Most of the change resulted from employment growth and unemployment decline in the Atlanta MSA, where unemployment rates were 6.7 percent in 1982, 6.5 percent in 1983, and 4.9 percent in 1984. Eleven of the Atlanta MSA's eighteen counties had low (3 - 4.9 percent) unemployment rates in 1984 (Figure 1); the rest had moderate (5 - 6.9 percent) rates, mostly between 5 percent and 6 percent. With roughly 44 percent of the state's civilian labor force and employment in 1984, but only 36 percent of its unemployment, the Atlanta MSA's percentage growth in those measures was substantially greater than that of the remaining metropolitan areas. The unemployment rate for all other metropolitan areas, excluding Atlanta's, (7.8 percent in 1982, 8 percent in 1983, and 6.7 percent in 1984) was at or above the average for the state, with an essentially stable (-.1 percent) civilian labor force between 1982 and 1984, slow growth in employment (1.1 percent), and a 13.9 percent drop in unemployment.

Unemployment rates and labor force changes for Georgia's 121 non-metropolitan counties, as a whole, contrast strongly with those for MSAs in general and Atlanta in particular. The unemployment rate for non-metropolitan counties was 9.2 percent in 1982, dropping to 8.4 percent in 1983 and 7 percent in 1984. The percentage point change was less than statewide change in 1983-1984, but higher (-2.2 percentage points versus -1.8 percentage points) in 1982-1984. The non-metropolitan labor force grew 2.5 percent between 1982 and 1984; employment expanded by 5 percent and unemployment declined by 22 percent. The percentage change in unemployment was greater than the corresponding change for all metropolitan statistical areas, but the non-metropolitan counties still had a disproportionate share (41.8 percent) of the state's total unemployment in 1984, considering their shares of employment and civilian labor force (almost 36 percent.

UNEMPLOYMENT RATES AND LABOR FORCES CHANGES IN MSAs

Georgia's metropolitan statistical areas differed substantially in unemployment rates and labor force changes over 1982-1984. Annual average unemployment rates for 1984 varied from Atlanta's 4.9 percent (Table 1) to the Albany MSA's 8.3 percent (Table 2). Between 1983 and 1984, the Augusta MSA had the greatest percentage point change (-2.4 points); the Macon-Warner Robins MSA had the smallest (-.8 point). Between 1982 and 1984, the same MSAs were at the extremes of change, Augusta with -2.4 percentage points and Macon-Warner Robins with -.2 points. The relatively smaller two-year percentage point changes reflect increases in unemployment rates in Albany, Athens, Macon-Warner Robins, and Savannah from 1982 to 1983, followed by declines in 1984.

Employment increased in all MSAs from 1983 to 1984, although the change on an annual average basis was very small (.1 percent) in the Macon-Warner Robins area. Albany led the non-Atlanta MSAs with an employment increase of 3.5 percent compared to Atlanta's 6 percent. Over 1982-1984, however, Augusta and Macon-Warner Robins lost annual average employment. The 6.8 percent employment increase of the MSA showing the most growth, Columbus, remained below the Atlanta MSA's increase of 8.5 percent.

Annual average unemployment fell in all MSAs from 1983 to 1984; the Augusta MSA's drop of 26.1 percent was larger than Atlanta's -20.9 percent. Unemployment decreased least, on a percentage basis, in the Columbus MSA (-8.2 percent). Over 1982-1984, the percentage change was greatest (-27.3 percent) in the Augusta MSA, followed by Atlanta, -21.6 percent; Columbus, -17.4 percent; and Athens, -17.3 percent. The Macon-Warner Robins MSA's unemployment fell by the lowest percentage, -3.2 percent.

*Civilian labor force and unemployment rate estimates have been adjusted by the Georgia Department of Labor to 1984 population benchmarks, and revised to the 1983 redefinitions of Georgia's Metropolitan Statistical Areas, which affected seven counties and four MSAs. Values for MSAs and counties may differ from those previously published, but statewide estimates are unaffected.

Table 1

Characteristics of State and Metropolitan Labor Forces, 1982-1984

Area/Characteristic	1982 Annual[r] Average	1982 % of State Total	1983 Annual[r] Average	1983 % of State Total	1984 Annual[p] Average	1984 % of State Total	% Change 1983-1984	% Change 1982-1984
Georgia								
Civilian Labor Force	2,662,000	100.0	2,685,000	100.0	2,760,000	100.0	2.8	3.7
Employed	2,454,000	100.0	2,484,000	100.0	2,594,000	100.0	4.4	5.7
Unemployed	208,000	100.0	201,000	100.0	166,000	100.0	-17.4	-20.2
Unemployment Rate	7.8		7.5		6.0		-1.5[a]	-1.8[a]
All Metropolitan Areas								
Civilian Labor Force	1,695,783	63.7	1,719,022	64.0	1,769,731	64.1	2.9	4.4
Employed	1,576,779	64.3	1,599,514	64.4	1,673,113	64.5	4.6	6.1
Unemployed	119,004	57.2	119,508	59.5	96,618	58.2	-19.2	-18.8
Unemployment Rate	7.0		7.0		5.5		-1.5[a]	-1.5[a]
Atlanta MSA								
Civilian Labor Force	1,146,210	43.1	1,170,823	43.6	1,220,552	44.2	4.2	6.5
Employed	1,069,885	43.6	1,095,151	44.1	1,160,695	44.7	6.0	8.5
Unemployed	76,325	36.7	75,672	37.6	59,857	36.1	-20.9	-21.6
Unemployment Rate	6.7		6.5		4.9		-1.6[a]	-1.8[a]
Metro Areas, excluding Atlanta								
Civilian Labor Force	549,573	20.6	548,199	20.4	549,179	19.9	.2	-.1
Employed	506,894	20.7	504,363	20.3	512,418	19.8	1.6	1.1
Unemployed	42,679	20.5	43,836	21.8	36,761	22.1	-16.1	-13.9
Unemployment Rate	7.8		8.0		6.7		-1.3[a]	-1.1[a]
Non-metro Areas								
Civilian Labor Force	966,217	36.3	965,978	36.0	990,269	35.9	2.5	2.5
Employed	877,221	35.7	884,486	35.6	920,887	35.5	4.1	5.0
Unemployed	88,996	42.8	81,492	40.5	69,382	41.8	-14.9	-22.0
Unemployment Rate	9.2		8.4		7.0		-1.4[a]	-2.2[a]

[r] Revised
[p] Preliminary
[a] Percentage point change

Source: Georgia Department of Labor; percentage changes computed by Division of Research.

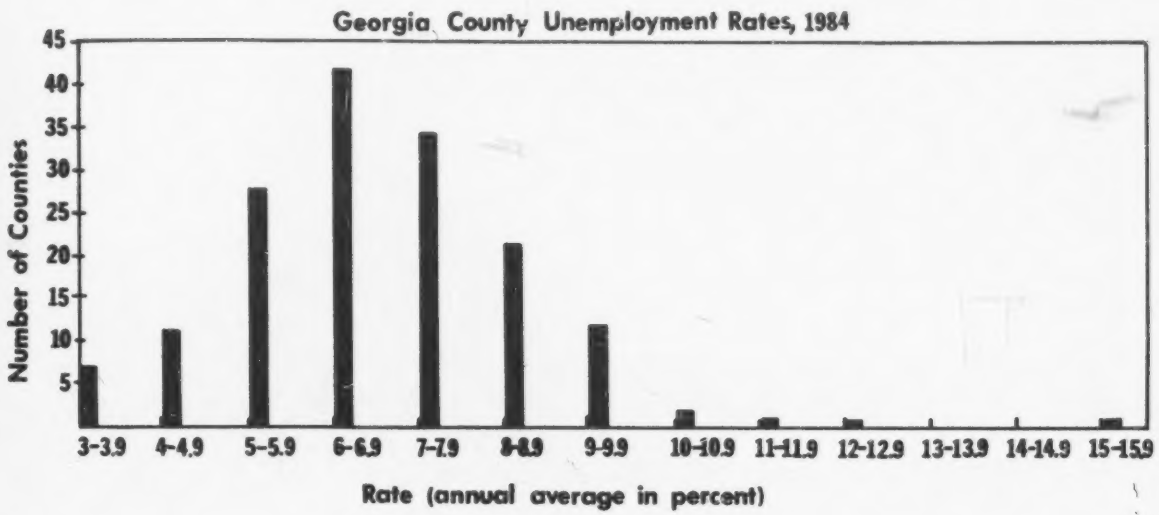
Table 2

Change in MSA Labor Forces, Excluding Atlanta, 1982-1984

Area/Characteristic	Annual Average 1982	1983	1984	Percentage Change 1983-1984	1982-1984
Albany					
Civilian Labor Force	53,412	53,070	54,002	1.8	1.1
Employed	48,599	47,877	49,541	3.5	1.9
Unemployed	4,813	5,193	4,461	-14.1	-7.3
Unemployment Rate	9.0	9.8	8.3	-1.5[a]	-.7[a]
Athens					
Civilian Labor Force	65,789	66,796	67,016	.3	1.9
Employed	61,561	62,408	63,518	1.8	3.2
Unemployed	4,228	4,388	3,498	-20.3	-17.3
Unemployment Rate	6.4	6.6	5.2	-1.4[a]	-1.2[a]
Atlanta [See Table 1]	--	--	--	--	--
Augusta (Ga.-S.C.)					
Civilian Labor Force	144,491	142,023	140,434	-1.1	-2.8
Employed	130,641	128,392	130,359	1.5	-.2
Unemployed	13,850	13,631	10,075	-26.1	-27.3
Unemployment Rate	9.6	9.6	7.2	-2.4[a]	-2.4[a]
Columbus (Ga.-Al.)					
Civilian Labor Force	88,819	89,749	92,738	3.3	4.4
Employed	80,171	81,970	85,596	4.4	6.8
Unemployed	8,648	7,779	7,142	-8.2	-17.4
Unemployment Rate	9.7	8.7	7.7	-1.0[a]	-2.0[a]
Macon-Warner Robins					
Civilian Labor Force	114,943	114,775	113,839	-.8	-1.0
Employed	106,925	106,013	106,076	.1	-.8
Unemployed	8,018	8,762	7,763	-11.4	-3.2
Unemployment Rate	7.0	7.6	6.8	-.8[a]	-.2[a]
Savannah					
Civilian Labor Force	97,385	96,933	96,916	0.0[b]	-.5
Employed	89,865	88,648	90,075	1.6	.2
Unemployed	7,520	8,285	6,841	-17.4	-9.0
Unemployment Rate	7.7	8.5	7.1	-1.4[a]	-.6[a]

[a] Percentage point change
[b] Negative but less than 0.1%

Source: Georgia Department of Labor; percentage changes computed by Division of Research.



Changes in employment and unemployment combined to produce increases in the civilian labor force from both 1983-1984 and 1982-1984 for the Atlanta, Albany, Athens, and Columbus MSAs. The Augusta and Macon-Warner Robins MSAs had small declines in annual average labor force over the same periods; the Savannah MSA's annual average civilian labor force was essentially unchanged from 1983 to 1984, with a slight decline over 1982-1984.

COUNTY UNEMPLOYMENT RATE, 1984

Preliminary annual averages given in Table 3 show that unemployment rates decreased substantially in many of Georgia's counties. Seventeen counties or 10.7 percent of the total achieved low (3 - 4.9 percent) average annual rates in 1984, compared to only one in 1982 and 1983. An additional 70 counties (44 percent) had moderate rates (5 - 6.9 percent), almost double the number in 1983 and over twice the number in 1982. The high (7 - 9.9 percent) rate category contained 67 (42.1 percent) counties, compared to 81 in 1982 and 90 in 1983. Only five counties (3.1 percent) had very high (10 percent or more) rates, a dramatic improvement over the 43 counties in that category in 1982, and the 30 in 1983.

Three of the five counties with "very high" unemployment rates are in the southwest corner of the state; this area also had the greatest concentration of "high"-rate counties. Two other counties with very high rates, Evans and Taliaferro, are part of smaller concentrations of high-rate counties in the coastal and northeastern areas of Georgia. Additional groups of counties with high unemployment rates persisted in the southeastern and northwestern sections. In contrast, counties with low unemployment rates circled central Atlanta, with others scattered in the northeast (Banks, Oconee, and Columbia counties), central (Jones and Wilkinson counties), and east central (Bulloch County) areas. The distribution of individual unemployment rates for 1984 (Figure 2) indicates the large number of counties with rates between 5 and 7.9 percent.

SHIFTS IN COUNTY UNEMPLOYMENT RATES

Between 1983 and 1984, the annual average unemployment rates of 146 counties (91.8 percent of the total) dropped; only twelve counties (7.5 percent) had higher rates for 1984 than for 1983, and one county's rate was unchanged (Table 4). Almost as many counties, 143 (89.9 percent), had lower rates in 1984 than in 1982; fourteen (8.8 percent) had higher rates, and the rates for two counties were unchanged.

As Table 5 illustrates, most increases were quite small. In 75 percent of the cases, annual average rates increased between 1983 and 1984 by less than one percentage point; only Pike County had an increase of three percentage points in either period. Decreases were larger (Table 6); between 1983 and 1984 annual average unemployment rates declined by less than one percentage point in about 22 percent of the counties with decreases, but by 1 - 1.9 percentage points in 50 percent of such counties, 2 - 2.9 percentage points in another 23 percent, and by three percentage points or more in almost 6 percent. Over 1982-1984, more counties fell into the 2 - 2.9 percentage point and 3 percentage point groups, with only 20.3 percent of those with decreases having declines of less than one percentage point .

CHANGES IN COUNTY LABOR FORCES

The changes in county labor forces associated with shifts in unemployment rates between 1982 and 1984 were varied (Table 7). Table 8 summarizes the patterns of change. Among the fourteen counties with increases in unemployment rates between 1982 and 1984, for example,

Table 3

County Unemployment Rates, 1982-1984

Rate (%)	1982		1983		1984	
	Number of Counties	Percent of Total	Number of Counties	Percent of Total	Number of Counties	Percent of Total
Low (3.0 - 4.9)	1	.6	1	.6	17	10.7
Moderate (5.0 - 6.9)	34	21.4	38	23.9	70	44.0
High (7.0 - 9.9)	81	50.9	90	56.6	67	42.1
Very High (10.0 or more)	43	27.0	30	18.9	5	3.1

Source: Based on annual average unemployment as a percentage of the civilian labor force, by place of residence, estimated by the Georgia Department of Labor. 1982 and 1983 data are revised; 1984 data are preliminary.

1984 Georgia County Unemployment Rates
(Annual Averages in Percent)

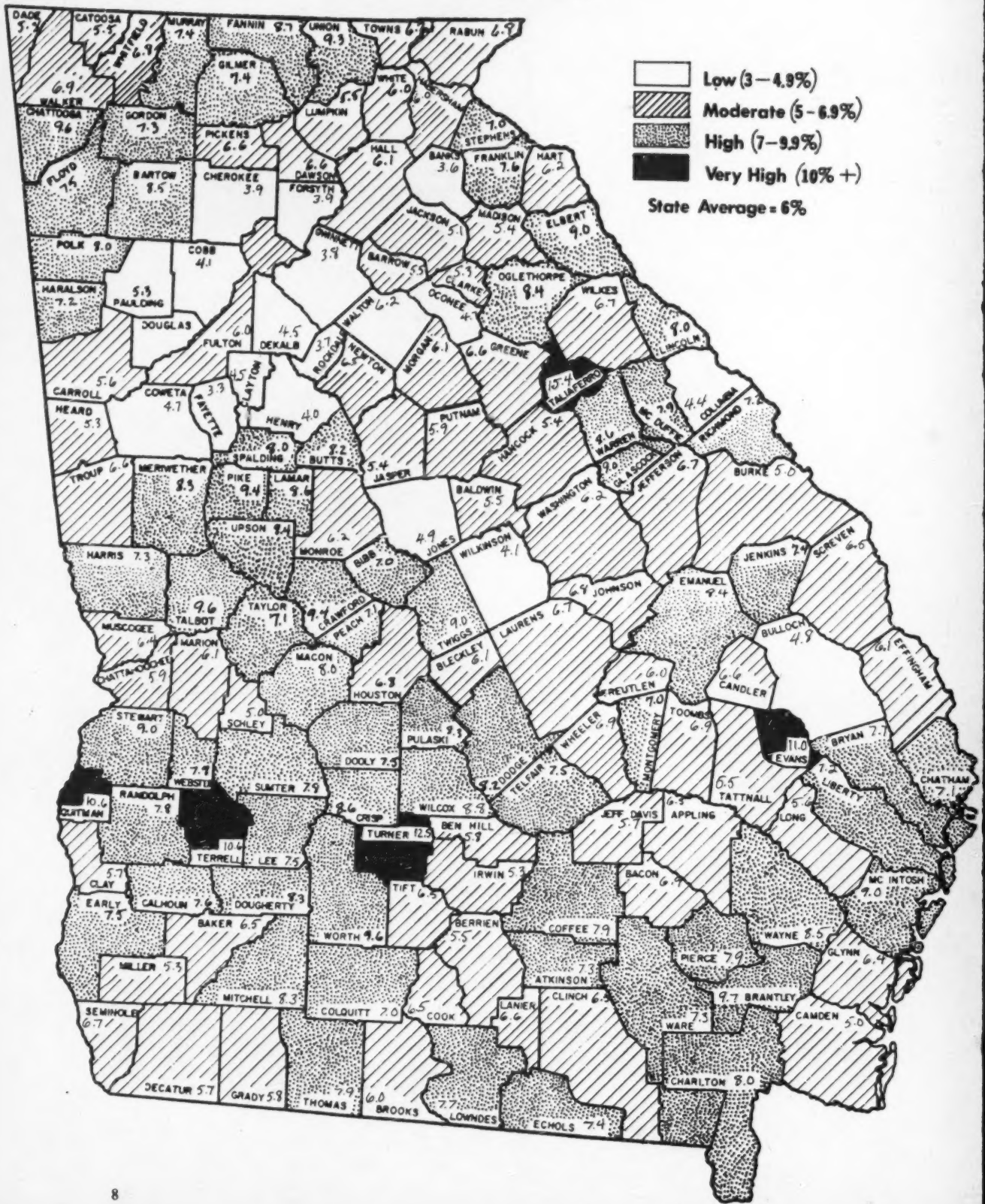


Table 4

Change in County Unemployment Rates, 1983-84 and 1982-84

Direction of Change	1983-84 Number of Counties	1983-84 Percent of Total	1982-84 Number of Counties	1982-84 Percent of Total
Higher Rate in 1984	12	7.5	14	8.8
Lower Rate in 1984	146	91.8	143	89.9
Unchanged	1	.6	2	1.3

Table 5

Distribution of Unemployment Rate Increases, Selected Periods

Range of Change (Percentage Points)	1983-84 Number of Counties	1983-84 % of Total with Increase (N = 12)	1983-84 % of All Counties (N = 159)	1982-84 Number of Counties	1982-84 % of Total with Increase (N = 14)	1982-84 % of All Counties (N = 159)
.1 - .9	9	75.0	5.7	10	71.4	6.3
1.0 - 1.9	1	8.3	.6	1	7.1	.6
2.0 - 2.9	2	16.7	1.3	2	14.3	1.3
3.0 - 3.9	0	0.0	0.0	1	7.1	.6

Table 6

Distribution of Unemployment Rate Decreases, Selected Periods

Range of Change (Percentage points)	1983-84 Number of Counties	1983-84 % of Total with Decrease (N = 146)	1983-84 % of All Counties (N = 159)	1982-84 Number of Counties	1982-84 % of Total with Decrease (N = 143)	1982-84 % of All Counties (N = 159)
.1 - .9	32	21.9	20.1	29	20.3	18.2
1.0 - 1.9	73	50.0	45.9	32	22.4	20.1
2.0 - 2.9	33	22.6	20.8	46	32.2	28.9
3.9 - 3.9	6	4.1	3.8	21	14.7	13.2
4.9 - 4.9	2	1.4	1.3	8	5.6	5.0
5.0 or more	0	0.0	0.0	7	4.9	4.4
Overall state change = -1.5				Overall state change = -1.8		

Source: See Table 3.

Table 7

County Unemployment Rates, 1983[r] and 1984[p],
And Change in Labor Force Characteristics, 1982-1984
(annual averages in percent)

County	Unemployment Rate		Percentage Point Change		1982-84 % Change in:		
	1983	1984	1983-84	1982-84	Civilian Labor Force	Employment	Unemployment
Appling	9.1	6.5	-2.6	-.3	2.6	2.9	-1.5
Atkinson	10.1	7.3	-2.8	-2.5	32.8	36.4	0.0
Bacon	10.1	6.9	-3.2	-2.1	6.7	9.3	-18.8
Baker	8.2	6.5	-1.7	-2.1	2.9	5.2	-22.1
Baldwin	6.1	5.5	-.6	-.7	3.6	4.4	-8.4
Banks	6.6	3.6	-3.0	-2.5	4.2	6.9	-38.4
Barrow	7.9	5.5	-2.4	-2.9	5.2	8.5	-31.0
Bartow	10.4	8.5	-1.9	-2.9	1.9	5.3	-24.5
Ben Hill	8.1	5.8	-2.3	-5.6	8.0	14.8	-44.8
Berrien	7.8	5.5	-2.3	-3.6	5.0	9.2	-36.2
Bibb	8.1	7.0	-1.1	-.6	-1.4	-.8	-9.2
Bleckley	5.9	6.1	.2	.5	-3.3	-3.8	5.4
Brantley	12.6	9.7	-2.9	-1.5	-3.4	-1.7	-17.0
Brooks	5.7	6.0	.3	.6	6.6	6.0	18.1
Bryan	8.4	7.7	-.7	.6	17.7	16.9	28.4
Bulloch	6.2	4.8	-1.4	-.9	2.5	3.5	-13.7
Burke	5.6	5.0	-.6	-.3	7.1	7.4	.5
Butts	10.8	8.2	-2.6	-2.4	5.6	8.5	-18.2
Calhoun	10.4	7.6	-2.8	-2.7	-2.2	.7	-27.3
Camden	5.4	5.0	-.4	-.1	14.7	14.8	12.1
Candler	6.9	6.6	-.3	-.9	2.7	3.7	-9.3
Carroll	7.2	5.6	-1.6	-2.3	7.7	10.4	-23.4
Catoosa	7.1	5.5	-1.6	-2.4	-3.0	-.5	-32.5
Charlton	8.1	8.0	-.1	-.3	4.0	4.3	.5
Chatham	8.5	7.1	-1.4	-.7	-.5	.2	-9.0
Chattahoochee	6.6	5.9	-.7	-1.6	3.7	5.5	-18.5
Chattooga	10.4	9.6	-.8	-5.3	.2	6.5	-36.0
Cherokee	5.5	3.9	-1.6	-2.9	5.2	8.5	-40.4
Clarke	5.8	5.3	-.5	-.4	2.8	3.2	-3.9
Clay	6.6	5.7	-.9	-1.6	7.6	9.6	-17.0
Clayton	6.7	4.5	-2.2	-2.3	5.9	8.5	-29.1
Clinch	9.0	6.5	-2.5	-4.3	.4	5.2	-39.2
Cobb	5.5	4.1	-1.4	-1.3	7.0	8.5	-18.2
Coffee	9.5	7.9	-1.6	-1.4	1.9	3.5	-13.3
Colquitt	8.0	7.0	-1.0	-2.1	2.6	5.0	-21.1
Columbia	5.7	4.4	-1.3	-1.5	-1.7	-.1	-25.8
Cook	7.2	6.5	-.7	-2.5	4.6	7.4	-24.3
Coweta	6.1	4.7	-1.4	-3.1	5.0	8.5	-36.4
Crawford	10.5	9.4	-1.1	-3.3	8.0	12.1	-20.2
Crisp	10.5	8.6	-1.9	-3.1	.8	4.4	-26.0
Dade	7.7	5.8	-1.9	-3.3	-4.0	-.5	-39.1
Dawson	9.1	6.6	-2.5	-3.1	4.7	3.2	-28.7
Decatur	8.0	5.7	-2.3	-3.1	6.5	10.1	-31.5
DeKalb	6.1	4.5	-1.6	-1.4	6.9	8.5	-18.0
Dodge	8.3	8.2	-.1	-.1	-5.7	-5.6	-6.7
Dooly	8.1	7.5	-.6	-2.5	-1.6	1.2	-26.6
Dougherty	10.0	8.3	-1.7	-.8	1.0	1.9	-7.8
Douglas	5.8	4.3	-1.5	-1.8	6.4	8.5	-26.3
Early	8.7	7.5	-1.2	-2.2	-2.6	-.2	-24.9
Echols	7.4	7.4	0.0	-1.3	3.5	5.0	-12.0
Effingham	8.7	6.1	-2.6	-.6	-.4	.2	-9.0
Elbert	10.7	9.0	-1.7	-3.2	1.2	4.8	-25.1
Emanuel	9.8	8.4	-1.4	-1.4	-1.9	-.3	-16.2
Evans	9.0	11.0	-2.0	2.6	-.9	-3.8	30.0
Fannin	10.4	8.7	-1.7	-3.1	10.2	14.0	-18.5
Fayette	4.7	3.3	-1.4	-1.6	6.7	8.5	-27.8
Floyd	10.2	7.5	-2.7	-3.9	-2.8	1.5	-36.1
Forsyth	5.6	3.9	-1.7	-2.5	5.7	8.5	-35.1
Franklin	9.0	7.6	-1.4	-3.0	6.1	9.7	-23.8
Fulton	7.5	6.0	-1.5	-1.8	6.4	8.5	-18.7
Gilmer	8.6	7.4	-1.2	-2.0	-9.2	-7.1	-28.9
Glascock	9.1	9.0	-.1	-3.4	5.8	10.0	-23.5
Glynn	8.1	6.4	-1.7	-1.1	-.1	1.1	-15.0
Gordon	8.8	7.3	-1.5	-3.9	9.9	14.7	-27.8
Grady	7.0	5.8	-1.2	-.8	2.8	3.8	-11.0
Greene	7.0	6.6	-.4	-2.4	12.7	15.7	-17.7
Gwinnett	5.4	3.8	-1.6	-1.4	6.9	8.5	-21.5
Habersham	6.7	6.0	-.7	-2.1	4.6	6.9	-22.5
Hall	8.7	6.1	-2.6	-3.3	4.4	8.2	-32.5
Hancock	5.7	5.4	-.3	-1.6	2.6	4.4	-21.9
Haralson	9.6	7.2	-2.4	-5.3	-1.4	4.5	-43.1
Harris	8.7	7.3	-1.4	-2.5	.5	3.2	-24.9
Hart	8.4	6.2	-2.2	-3.7	4.2	8.5	-34.3
Heard	6.5	5.3	-1.2	-3.8	5.9	10.4	-38.2
Henry	6.7	4.0	-2.7	-2.9	5.3	8.5	-38.5
Houston	6.6	6.8	.2	.9	.2	-.8	16.5
Irwin	6.3	5.3	-1.0	-2.7	8.4	11.6	-28.4
Jackson	7.7	5.1	-2.6	-2.3	.6	3.2	-31.3
Jasper	7.9	5.4	-2.5	-1.8	2.1	4.2	-24.3
Jeff Davis	7.9	5.7	-2.2	-.9	3.8	4.8	-10.2

County	Unemployment Rate		Percentage Point Change		1982-84 % Change In:		
	1983	1984	1983-84	1982-84	Civilian Labor Force	Employment	Unemployment
Jefferson	8.0	6.7	-1.3	-4.0	5.9	9.9	-33.4
Jenkins	8.9	7.4	-1.5	-2.4	1.3	4.1	-23.9
Johnson	8.2	6.8	-1.4	-3.1	4.3	7.9	-28.2
Jones	7.4	4.9	-2.5	-1.9	-2.8	-.8	-29.8
Lamar	9.5	8.6	-.9	-.8	.2	-.9	-8.4
Lanier	6.5	6.6	.1	-.3	4.6	4.9	0.0
Laurens	8.1	6.7	-1.4	-2.2	-.9	1.4	-24.5
Lee	8.3	7.5	-.8	-.4	1.8	1.9	-2.7
Liberty	8.4	7.2	.8	2.1	4.0	1.8	48.4
Lincoln	10.3	8.0	-2.3	-3.2	-4.8	2.1	-48.4
Long	7.0	5.8	-1.4	-.8	.9	1.8	-9.0
Lowndes	7.8	7.7	-.1	.1	5.1	4.8	7.8
Lumpkin	6.8	5.5	-1.3	-2.2	2.8	5.3	-27.4
Macon	9.7	8.0	-1.7	-1.7	1.3	.8	-19.0
Madison	8.4	5.4	-3.0	-3.1	-.3	3.2	-37.2
Marion	6.8	6.1	-.7	-1.1	3.3	4.5	-12.6
McDuffie	9.7	7.9	-1.8	-9.5	-10.4	-.2	-59.1
McIntosh	11.2	9.0	-2.2	-1.8	-.8	1.2	-17.2
Meriwether	11.9	8.3	-3.6	-4.1	-8.8	-4.4	-38.8
Miller	7.0	5.3	-1.7	-2.8	3.5	6.7	-32.5
Mitchell	10.5	8.9	-2.3	-.9	-1.8	-.8	-11.4
Monroe	7.2	6.2	-1.0	-1.3	-3.7	2.4	-20.8
Montgomery	7.7	7.0	-.7	-2.0	2.8	5.1	-19.8
Morgan	7.4	6.1	-1.3	-1.9	8.4	10.8	-17.3
Murray	8.8	7.4	-1.2	-4.0	7.8	12.4	-30.1
Muscogee	7.4	6.4	-1.0	-1.8	3.7	5.5	-17.4
Newton	7.8	6.5	-1.1	-1.9	6.3	8.5	-17.3
Oconee	5.9	4.7	-1.2	-.9	2.2	3.2	-13.4
Oglethorpe	9.8	8.4	-1.4	-1.9	7.4	9.8	-12.8
Paulding	8.8	5.3	-1.3	-2.7	5.4	8.5	-30.5
Peach	7.8	7.1	-.5	.5	-.2	-.8	7.5
Pickens	7.8	6.8	-1.0	-2.8	2.4	5.4	-27.0
Pierce	11.3	7.9	-3.4	-2.3	-3.8	-1.1	-25.4
Pike	6.9	9.4	2.5	3.0	4.1	.9	53.2
Polk	12.4	8.0	-4.4	-7.8	1.2	10.8	-49.1
Pulaski	7.6	8.3	.7	.5	-.1	-.8	6.8
Putnam	6.3	5.9	-.4	-1.6	-4.8	-3.1	-25.1
Quitman	7.9	10.6	2.7	-.2	-9.7	-9.6	-11.0
Rabun	8.9	6.8	-2.1	-2.1	-.3	2.1	-24.4
Randolph	9.3	7.8	-1.5	-3.3	-2.3	1.2	-30.8
Richmond	9.0	7.2	-1.8	-.8	-.7	-.1	-7.7
Rockdale	5.5	3.7	-1.8	-2.4	5.6	8.5	-35.9
Schley	8.7	5.0	-3.7	-3.5	.1	3.9	-40.9
Screven	7.3	6.5	-.8	-.3	-2.1	-1.8	-8.3
Seminole	8.5	6.7	-1.8	-2.0	-1.2	.9	-23.5
Spalding	8.8	8.0	-.8	-1.6	6.6	8.5	-11.4
Stephens	7.5	7.0	-.5	-2.5	3.7	6.5	-23.5
Stewart	10.3	9.0	-1.3	-3.8	-4.8	-.8	-33.5
Sumter	8.8	7.8	-1.0	-2.3	1.3	3.9	-22.3
Talbot	9.4	9.6	.2	-2.5	-7.0	-4.4	-26.3
Taliaferro	13.6	15.4	1.8	-2.4	-2.8	0.0	-15.8
Tattnall	6.1	5.5	-.6	.1	3.1	3.0	4.5
Taylor	6.6	7.1	.5	.1	-4.0	-4.1	-3.0
Telfair	8.3	7.5	-.8	0.0	4.9	4.9	5.2
Terrell	12.0	10.6	-1.4	1.2	-2.3	-3.5	9.8
Thomas	8.0	7.9	-.1	0.0	5.5	5.5	5.7
Tift	7.8	6.5	-1.3	-2.2	3.1	5.5	-22.2
Toombs	7.8	6.9	-.9	-.4	4.8	5.1	-1.1
Towns	7.2	6.2	-1.0	-1.5	10.1	11.9	-11.1
Treutlen	7.8	6.0	-1.8	-1.9	3.3	5.5	-22.1
Troup	8.0	6.6	-1.4	-1.9	3.8	5.9	-19.5
Turner	11.8	12.5	.7	.1	-9.2	-9.4	-9.4
Twiggs	11.1	9.0	-2.1	-.7	.8	1.3	-6.7
Union	10.3	9.3	-1.0	-.7	-2.5	-1.7	-9.1
Upson	8.8	8.4	-.2	-4.8	-.9	4.3	-36.9
Walker	8.3	6.9	-1.4	-2.4	-3.0	-.5	-27.9
Walton	7.8	6.2	-1.4	-2.0	6.2	8.5	-19.8
Ware	10.1	7.3	-2.8	-2.8	-4.1	-1.1	-31.0
Warren	11.2	8.8	-2.6	-8.5	-.5	9.6	-49.8
Washington	7.2	6.2	-1.0	-.7	-.5	.2	-11.1
Wayne	12.7	8.5	-4.2	-2.7	-1.5	1.8	-25.7
Webster	8.9	7.8	-1.1	-.5	-.4	.1	-6.5
Wheeler	8.2	6.9	-1.3	-1.5	-4.7	-3.1	-21.8
White	8.0	6.0	-2.0	-4.1	9.2	14.1	-34.5
Whitfield	7.9	6.8	-1.1	-4.2	7.3	12.4	-33.9
Wilcox	10.1	8.8	-1.3	-2.1	-.8	1.7	-19.4
Wilkes	8.9	6.7	-2.2	-4.2	5.3	10.3	-35.3
Wilkinson	5.2	4.1	-1.1	-2.2	2.1	4.4	-33.2
Worth	12.5	9.8	-2.9	-1.7	-4.4	-2.8	-18.9
Georgia	7.5	6.0	-1.5	-1.8	3.7	5.7	-20.2

r Revised
p Preliminary

Source: Georgia Department of Labor; percentage changes computed by Division of Research.

Table 8

Direction of Change in County Unemployment Rates and Civilian Labor Force Components, 1982-1984

Characteristic/Direction of Change (+, -, =)	Number of Counties (N = 159)
Counties with Increased Unemployment Rates	14
Civilian Labor Force +	7
Employment +, Unemployment +	6
Employment -, Unemployment +	1
Civilian Labor Force -	7
Employment - , Unemployment +	5
Employment - , Unemployment -	2
Counties with Decreased Unemployment Rates	143
Civilian Labor Force +	96
Employment +, Unemployment -	90
Employment +, Unemployment +	3
Employment +, Unemployment =	2
Employment -, Unemployment -	1
Civilian Labor Force -	47
Employment +, Unemployment -	20
Employment -, Unemployment -	26
Employment =, Unemployment -	1
Counties With Unchanged Unemployment Rates	2
Civilian Labor Force +	2
Employment +, Unemployment +	2

+ indicates increase
- indicates decrease
= indicates unchanged

Source: See Table 7.

half experienced increases in the civilian labor force (resulting, in most cases, from increases in both employment and unemployment), and half had decreases. Among those with lower CLFs in 1984 than in 1982, employment decreased in all instances and unemployment increased in five cases.

Civilian labor forces increased in 96 of the 143 counties experiencing lower annual average unemployment rates in 1984 than in 1982. In 90 of the counties, employment increased and unemployment decreased; in five more, employment increased and unemployment also increased or was unchanged. In only one county did both employment and unemployment increase.

The civilian labor force decreased in 47 counties that had unemployment rate declines between 1982 and 1984. In 20 counties, employment increased and unemployment decreased; in 26, both employment and unemployment declined, and in one county employment was unchanged, but unemployment decreased. In the two counties with unchanged unemployment rates, civilian labor force, employment, and unemployment all increased.

LABOR FORCE CHANGES AND GROWTH OUTSIDE ATLANTA

The concentration of employment and labor force in the Atlanta MSA is clear; as the state's economic center, it also has the lowest overall unemployment rate among MSAs and the largest number of low-employment-rate counties. These facts do not mean, however, that economic growth is limited to the Atlanta area. If, in the short run, economic growth is associated with expanding annual average employment and civilian labor force, decreased unemployment, and lower unemployment rates, then many of Georgia's non-metropolitan counties progressed between 1982 and 1984. Over that period 143 counties experienced declines in unemployment rates; 96 had the combination of changes just described. Almost 40 percent of all these or 61 counties were outside metropolitan statistical areas. Among the 47 counties with lower unemployment rates but declining civilian labor forces, 17 of the 20 counties with increases in employment and declines in unemployment were non-metropolitan counties; 19 of the 26 counties with both employment and unemployment declines (but lower unemployment rates because unemployment declined more than employment), were non-metropolitan counties. Metropolitan counties outside Atlanta also grew; 18 had lower unemployment rates in 1984 than in 1982, and almost half of those had increased employment and declining unemployment, although the civilian labor force expanded in only five.

In the short run, the proportion of Georgia's civilian labor force, employment, and unemployment held by non-metropolitan counties varied very little; within that proportion, however, the positions of individual counties improved considerably. Areas of relatively high unemployment remain in the state, particularly in the southwest and parts of the southeast, the coastal area, along the border with South Carolina, and across the highlands, but even in those areas the overall picture is brighter. If such changes continue, longer run statistics may eventually confirm that there is growth outside Atlanta.

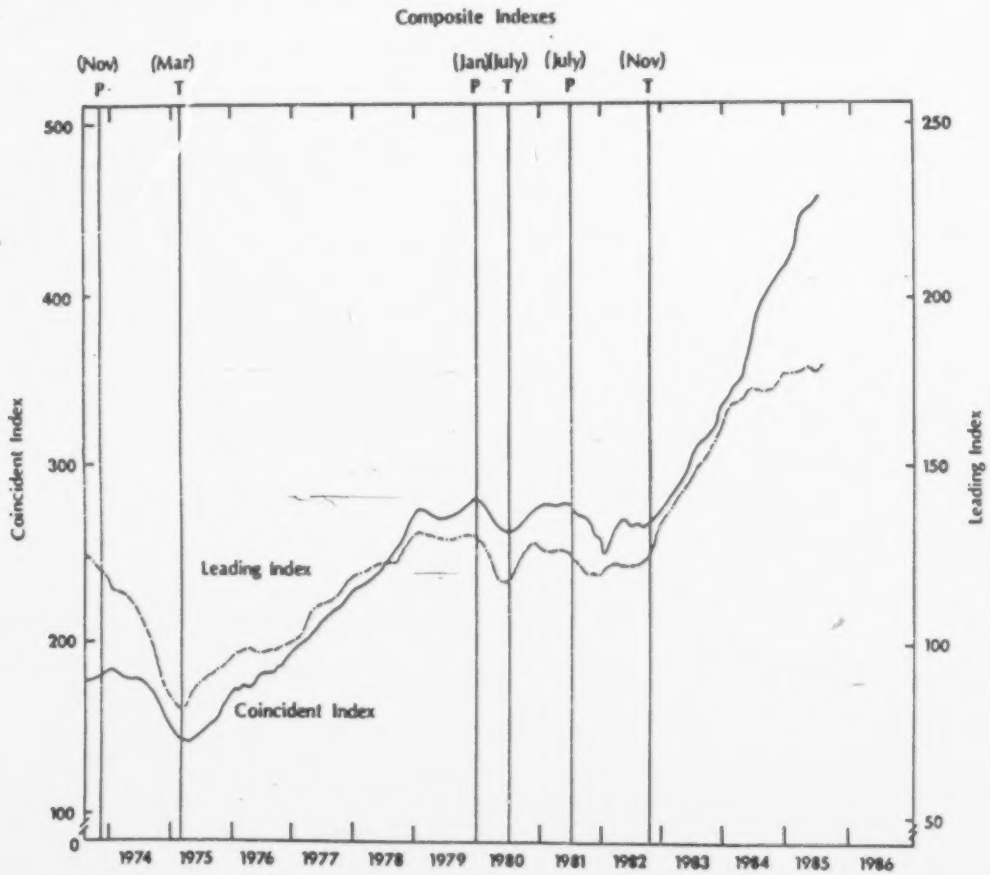
Composite Indexes of Leading and Coincident Georgia Economic Indicators

The Georgia economy clearly improved in June with each component of the leading and coincident indicators moving favorably. The coincident indicator rose by .7 percent from May to June and rose by 14.6 percent over June 1984. The leading indicator rose 1.6 percent from May to June.

The largest gain by a component of the coincident indicator came in seasonally adjusted real retail sales which increased 3.1 percent. This followed a 2.1 percent decline in May and left real retail sales 4.3 percent higher than they were in June 1984. Seasonally adjusted real manufacturing weekly earnings and nonagricultural employment were .1 and .3 percent greater than their levels in the previous month.

The leading indicator rose as a result of an upturn of 9.8 percent in seasonally adjusted help wanted advertising and a drop of 16.6 percent in initial unemployment claims. Despite a two-month decline, initial unemployment claims remained 7.1 percent higher than a year ago. Seasonally adjusted new housing permits reversed a two-month decline and grew by .9 percent.

Despite mixed performances from the indicators, the state's economy continued its gradual improvement in July. The coincident indicator rose by 2.9 percent, while the leading indicator experienced a modest .9 percent increase.

The improvement in the coincident indicator was mitigated by a .8 percent drop in seasonally adjusted real retail sales, a component which has fluctuated uncertainly since early spring. Meanwhile, real manufacturing weekly earnings posted a 2.9 percent gain, and seasonally adjusted nonagricultural employment rose for the third month in succession, this time by .8 percent.

The leading indicator was mixed, as initial unemployment claims increased 13.6 percent and help wanted advertising dropped 6 percent. These poor showings were overcome, however, by a 24.6 percent upturn in new housing permits.